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NORTH LIVERMORE SPECIFIC PLAN

VOLUME II: URBAN AREA

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CHAPTER ONE: INTRODUCTION

1.1 PURPOSE AND PLANNING CONTEXT

The North Livermore Specific Plan addresses a comprehensive range of issues associated with urban development and resource protection within the North Livermore Plan Area. It is intended to allow for phased and coordinated development and resource protection within the City of Livermore and County of Alameda.

The North Livermore Plan Area consists of approximately 13,500 acres located in the Livermore-Amador Valley region of northeast Alameda County. The majority of the City of Livermore is located south of Interstate 580. The Planning Area boundaries are I-580 on the south, the Alameda/Contra Costa County line on the north, Vasco Road and the Altamont Hills northeast, the City Limits/Springtown on the southeast, and rolling foothills on the west (see Figure 1.1: Regional Location and Figure 1.2: Plan Area Context).

This document is **Volume II** of the Specific Plan. The Specific Plan consists of three volumes:

1. **Volume I: Rural Area** addresses all non-urban uses in Zones B, C and D of the Plan. Rural area policies provide for limited rural development, habitat and open space preservation, and the protection of agriculture.
2. **Volume II: Urban Area (Zone A)** addresses land use, circulation, infrastructure, development standards, and implementation for the approximately 3,200 acres south of May School Road that is designated for urban development (approximately 2,650 acres) and for parks and open space (approximately 550 acres) that will be annexed to the City of Livermore. Volume II also describes land use, circulation, infrastructure, and implementation for Phase 1 (see Figure 1.3: Current and Proposed City Boundaries).
3. **Volume III: Resource Conservation Program** is a comprehensive conservation and habitat management program for biological resources in the entire Plan Area.

1.2 DESCRIPTION OF PLANNING ZONES

As indicated above, the North Livermore Plan Area is divided into four planning zones: Zone A is the Urban Area, Zone B is the transitional rural area north of the Urban Growth Boundary established at May School Road, and Zones C and D comprise the remaining rural lands. The delineation of these zones was based on a number of criteria, including slope, elevation, proximity to urban development, suitability for agriculture, visual resources, wildlife resources, and vegetation (see Figure 1.4: North Livermore Planning Zones).

While it was recognized during the planning process that urban uses would be most suitably located on relatively flat land, nearly half of the Plan Area's "buildable" land is not marked for development. As described below, The majority of Zone B consists of slopes less than 15 percent, and a sizeable portion (approximately 65%) of lands in Zones C and D have slopes of less than 25 percent.

Zone A: Urban Area. Zone A consists of approximately 3,200 acres (24% of the total Plan Area) of predominantly flat land and relatively few physical constraints to development. The area is bounded by Interstate 580 (I-580) on the south, May School Road on the north, Springtown and the Bird's Beak/Alkali Sink Reserve on the east, hillside lands on the west, and Las Positas College/Cayetano Corporate Campus on the southwest. Open space opportunities consist primarily of bordering hillside areas and the riparian corridor along Cayetano Creek and other drainage corridors. Existing roads include North Livermore Avenue, May School Road, Hartman Road, Hartford Road, Raymond Road and Lorraine Road.

Existing uses within Zone A include the Federal Communications Commission (FCC) Monitoring Station (approximately 120 acres), the Livermore-Pleasanton Rod and Gun Club (46 acres), and a number of ranch houses, rural residences and out buildings.

Zone B: Rural Management/Agricultural Enhancement. Zone B consists of approximately 1,550 acres of valley land and low hills immediately to the north of Zone A (11.5% of the Plan Area) and located generally north of May School Road and south of Manning Road. In addition to several scattered rural residences, Zone B includes the Bel Roma residential area which is accessed from May School Road and is comprised of 16 parcels of approximately five acres each. Current land use in Zone B consists primarily of grazing and dry farming.

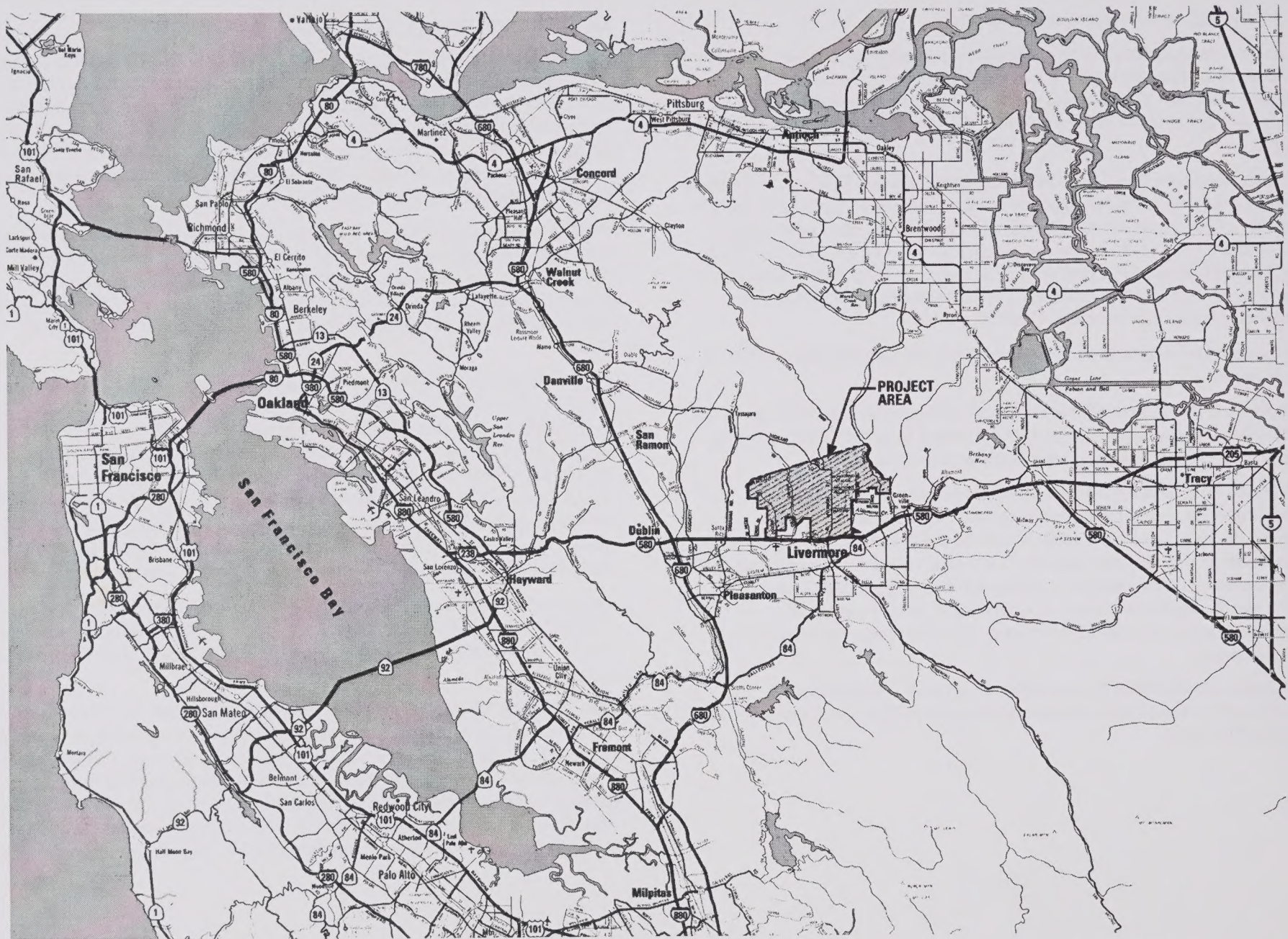


FIGURE 1.1: REGIONAL LOCATION

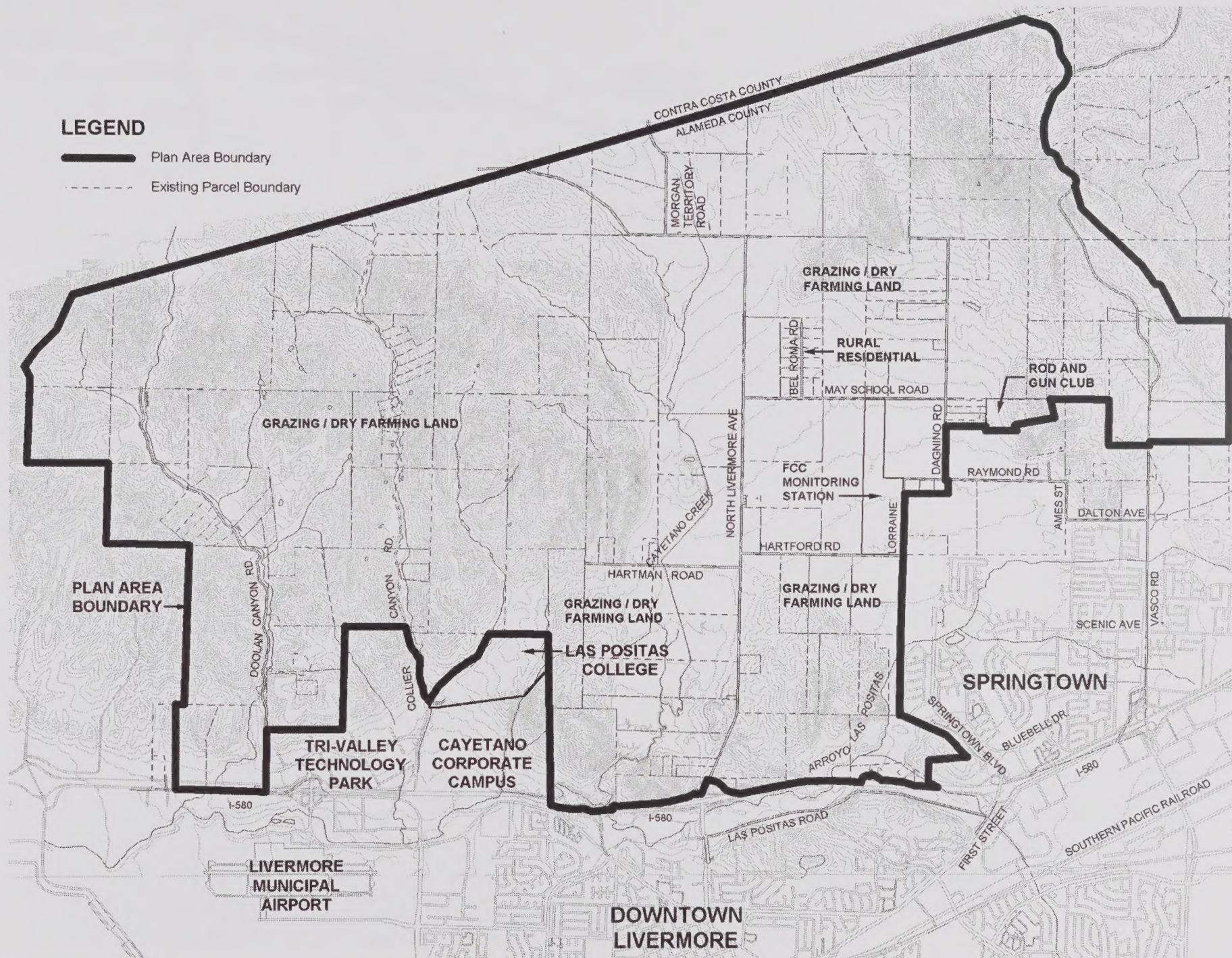


FIGURE 1.2: PLAN AREA CONTEXT: EXISTING USES

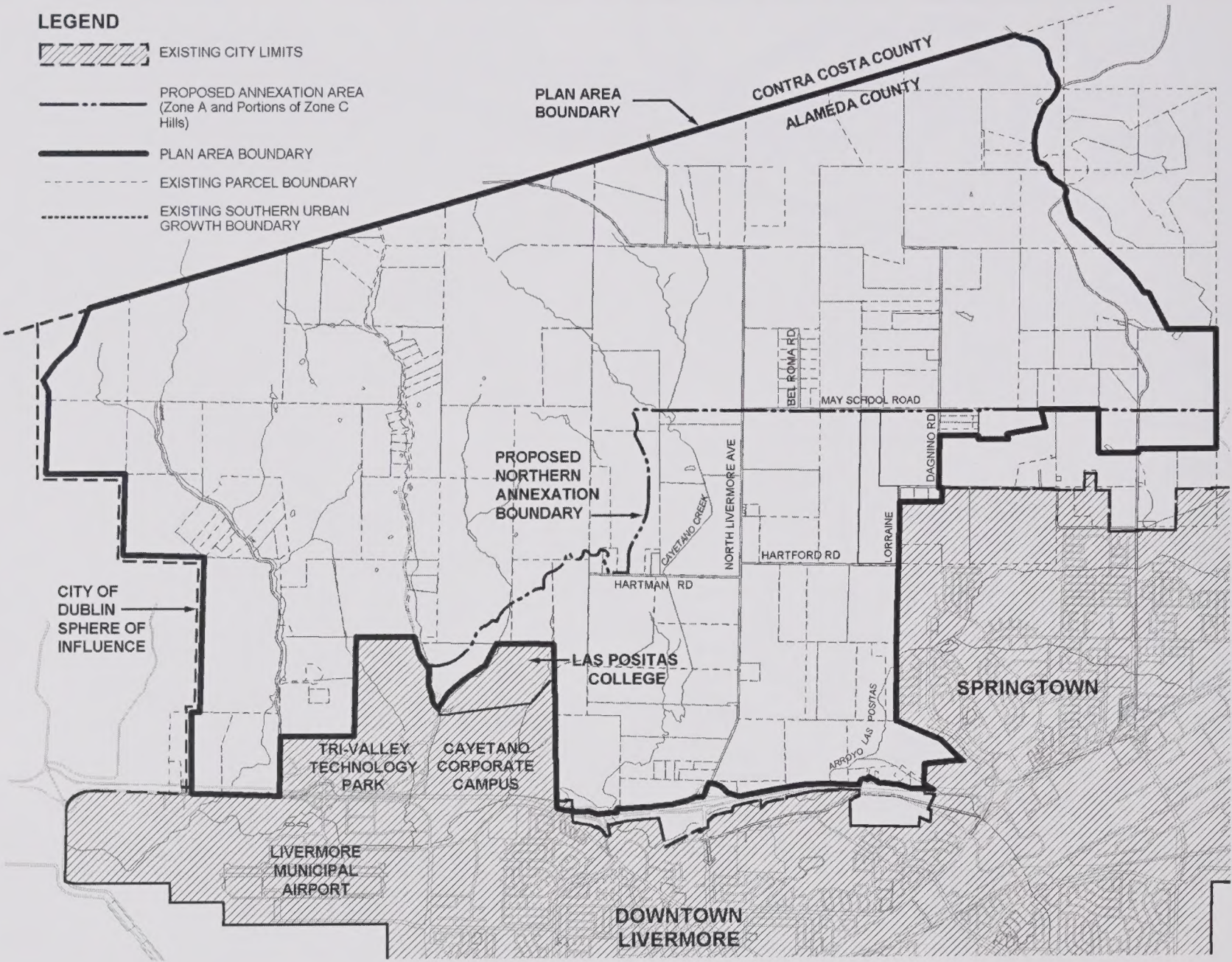


FIGURE 1.3: CURRENT AND PROPOSED CITY BOUNDARIES

LEGEND

- A Zone A: Urban Area
 - B Zone B: Rural Management / Agricultural Enhancement Area
 - C Zone C: Large Parcel Agriculture / Resource Management Area
 - C Zone C: I-580 Hills
 - D Zone D: Large Parcel Agriculture / Resource Management Area
- Plan Area Boundary
--- Existing Parcel Boundary

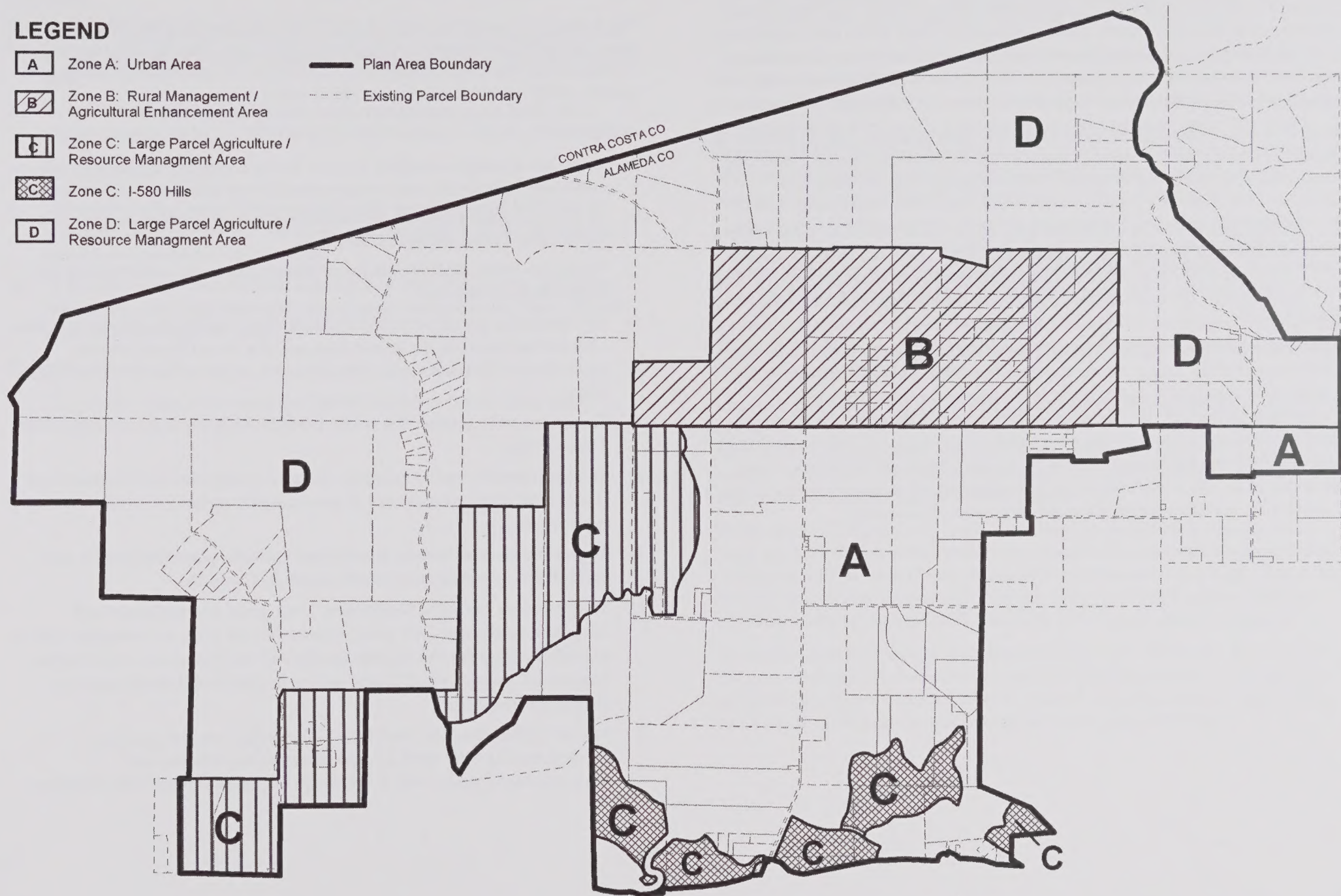


FIGURE 1.4: PLAN AREA ZONES

Because of Zone B's relatively flat terrain (under 15% slope), its adjacency to Zone A: Urban Area from where it can receive irrigation water, and the presence of favorable soils in the western portion of the zone, Zone B has been determined to be the area most suitable for intensive agriculture and a limited increase in rural development. The use of Zone B for this purpose also provides an effective transition between urban uses in Zone A and resource conservation in Zone D.

Zone C: Large Parcel Agriculture/Resource Management. Zone C consists of visually prominent hillside areas adjacent to the Urban Area (Zone A), including the hills between I-580 and Zone A (referred to as the Zone C/I-580 Hills throughout this Plan) and the hills immediately west of the Urban Area, which provide important scenic and open space resources. Although Zone C lands are similar to the open space lands in Zone D, the Zone C lands comprise a separate zone because of their visual prominence, aesthetic quality, and proximity to the Urban Area. Zone C is 1,700 acres in size which is approximately 12.5 % of the Plan Area.

Zone D: Large Parcel Agriculture/Resource Management. Zone D contains 7,050 acres of hillier land at the far northern end of the North Livermore Valley and the more distant hills and canyons in the western, northwestern and northeastern sections of the Plan Area (approximately 52% of the Plan Area). Rural residences are located along the narrow valley floors of Doolan and Collier Canyons and along the Vasco Corridor to the east. Grazing is the principal land use in this zone. The area's topography and geographical remoteness makes Zone D suitable for resource conservation and large parcel agriculture.

1.3 MAJOR GOALS OF THE PLAN

The following major goals of the North Livermore Specific Plan reflect the Plan's intent to implement the goals of the East County Area Plan (ECAP) and the North Livermore General Plan Amendment (NLGPA) by accommodating compact growth within a context of resource preservation.

CONSERVATION AND URBAN DEVELOPMENT

- A. To create a pattern of urban growth that is compact, city-served, self-sufficient, pedestrian and transit-oriented and minimizes urban sprawl.**
- B. To assure a limit to urban development through implementation of a permanent Urban Growth Boundary.**
- C. To permanently preserve the rural lands/open space areas outside the Urban Area (Zone A).**
- D. To establish a greenbelt buffer flanking May School Road to help create a transition between the urban area and the Rural Management/Agricultural Enhancement Area (Zone B), as shown on the Land Use Plan.**
- E. To permanently protect the scenic rural lands/open space quality of the Zone C hills.**
- F. To permanently protect sensitive biological resources and habitats and create new high value habitat in permanently protected rural lands/open space areas.**
- G. To provide mechanisms to protect and enhance potential habitat and agricultural lands located within Zones B, C and D.**
- H. To implement the rural lands/open space goals and policies of the adopted County and City general plans for the area, as amended, and to provide funding for the implementation of the Resource Conservation Program through a rural lands/open space and biological impact fee mitigation program.**
- I. To ensure that the plan shall be self-financing, requiring urban development to fully fund a comprehensive circulation and infrastructure system, and a full range of public services and facilities.**

HOUSING

- J. To contribute toward meeting the housing needs of the City, which will in turn contribute towards meeting County and ABAG regional housing goals.**
- K. To limit residential development in the urban area to no more than 12,500 housing units.**

COMMUNITY FACILITIES

- L. To provide a full range of community and neighborhood facilities to maintain and improve service levels and the quality of life for existing and future residents of Livermore.**
- M. To provide major recreational amenities in the Urban Area, including community and neighborhood parks, generous creek corridors, hillside open space and public trails.**

COMMERCIAL USES

- N. To provide commercial uses that primarily serve North Livermore residents.**

1.4 RELATIONSHIP OF THE RESOURCE CONSERVATION PROGRAM (VOLUME III) TO THE SPECIFIC PLAN.

The Resource Conservation Program (RCP) is an integral part of the North Livermore Specific Plan. As a comprehensive resource conservation and habitat management program for the entire 13,500 acre Plan Area, it protects, enhances, and manages the Plan Area's significant biological resource areas. The RCP's land trust, called the North Livermore Conservancy, will permanently secure key open space lands and foster new and continued agricultural activity by the acquisition of lands, in fee title or easement, in Zones B, C, and D.

Development in Zone A supports the activities of the RCP by payment of the Resource Conservation Fee. Residents in Zone A will directly benefit from the RCP by the program's restoration plan for Cayetano Creek which includes provision of a multi-use trail for recreational opportunities. Protected special status species habitat in Zone A includes the 94-acre Environmental Park and the Zone C/I-580 Hills, the latter of which also provides a visual screen between urban development and the freeway.

Land use activities in Zone B will be similarly supported by the goals and policies of the RCP where land will be dedicated to the Conservancy in order to qualify for the Plan's density bonus program. Acquired land in Zone B will primarily serve to secure the Urban Growth Boundary along May School Road and to encourage and support agriculture in the area.

Under the RCP, Zones C and D are considered potential habitat management lands and will be acquired in fee or conservation easement based upon priorities established by the Conservancy. Acquisition of easements or outright ownership is intended to protect grassland habitat (and other specific important habitats) while encouraging the continued use of the land for agricultural purposes.

In summary, the policies and management plans of the Resource Conservation Program (Volume III), the urban development policies for Zone A (Volume II) and the rural policies and standards for Zones B, C and D (Volume I) are to be considered together as a mutually supportive and integrated Plan.

1.5 GUIDE TO VOLUME II

This section helps the user to understand the “What”, “When”, and “How” of building a project within the urban portion of North Livermore (Rural land owners should refer to Volume I).

WHAT TO BUILD

1. Find the Assessor Parcel Number of the subject property or use Figure 2.2.
2. Go to Table 2.3: Existing Parcel Information for information on legal parcels in existence as of October 1999; find the Reference # for the subject property.
3. Go to Table 2.4: Land Use by Existing Parcel for a tabulation of land uses assigned to the subject property.
4. Go to Figure 2.3: Land Use Plan and Existing Parcels for an illustration of land uses assigned to the subject property.

WHEN TO BUILD

5. Go to Figure 9.1: Phase 1 Plan, for the location of Phase 1 development within North Livermore.
6. Go to Table 9.1: Phase 1 Land Use Program by existing parcel for a tabulation of land uses.
7. Go to Chapter Eight: Implementation for policies regarding growth management and Chapter Nine: Phasing regarding phasing.

HOW TO BUILD

8. If there is a school or a park on the subject property, go to Chapter Five: Community Services & Facilities for development standards and guidelines.
9. Go to Chapter Three: Transportation & Circulation for location of arterial and connector streets.

10. Go to Chapter Seven: Community Design for:

- Site planning and development standards, such as lot and structure standards and parking (Section 7.2), and grading standards (Section 7.3).
- Layout of neighborhoods and residential streets (Section 7.3).
- Design of residential development (Section 7.4) and commercial development, including the Village Core (Section 7.5 and 7.6).
- Layout and design of bicycle and pedestrian facilities (Section 7.7).
- Design of streets, sidewalks, and associated landscape; entries and intersections (Section 7.8) and gateways, entries and intersections along the street system (Section 7.9).
- Location and design of walls and fences (Section 7.10).
- The design of landscape areas, buildings, signs, and lighting (Section 7.11, 7.12, and 7.13).

HOW TO FILE AN APPLICATION

11. Go to Chapter Eight: Implementation for a description of the applications required for development of the subject property.

HOW TO PAY FOR IMPROVEMENTS

12. Go to Chapter Eight: Implementation for an explanation of financing of infrastructure and related issues.

CHAPTER TWO:

LAND USE

INTRODUCTION

This chapter describes the overall land use concept for urban uses occurring in North Livermore, and defines land use policies for residential development, affordable housing, and commercial development. Where these policies and standards conflict with general provisions of City zoning and development regulations, the Specific Plan provisions shall apply. Where this Specific Plan does not provide an applicable provision, the City's ordinances and development standards shall apply.

North Livermore represents the largest area for urban growth within the City of Livermore north of I-580. The intent of the plan is to accommodate the long term growth needs of the City while establishing a permanent boundary between urban and non-urban uses. The result will be a variety of new residential neighborhoods and support uses within the City, located within a permanent Urban Growth Boundary. The plan also includes a mechanism for the permanent protection of open space, natural resources and agricultural lands beyond the Urban Growth Boundary.

The Urban Area of North Livermore is planned to accommodate 12,500 homes and associated support uses, including schools, parks, commercial, and open space. Figure 2.1: Land Use Plan identifies the distribution of land uses within the community. Table 2.1: Land Use Program for Zone A establishes a mix of uses for a residential community supported by commercial, civic, and open space elements. The program is derived from the existing East County Area Plan (ECAP) and North Livermore General Plan Amendment (NLGPA), with adjustments based on current market information, community input, and the Open Space Feasibility Study, accepted by the County and City in 1996.

Development will occur in orderly phases. For phasing information, see Chapter Nine: Phasing.

Figure 2.1: Land Use Plan illustrates the fundamental structure underlying the arrangement of land uses, transportation facilities, and open space within the Urban Area. These urban design principles are summarized by the goals and policies below.

2.1 GENERAL

LAND USE GOALS

- A. To implement a permanent urban growth boundary along the northwest, north and northeast boundaries of the Urban Area (Zone A).**
- B. To provide a greenbelt that establishes an identifiable edge between urban and rural/agricultural uses that substantially buffers the urban/rural interface and provides a multi-use trail for pedestrian, bicycle and equestrian access along this edge.**
- C. To provide a compact pattern of land uses in the Urban Area as designated on the Land Use Plan (Figure 2.1).**
- D. To create an interconnected open space system within North Livermore that will provide for the preservation and enhancement of natural resources and offer a variety of recreational opportunities.**

GENERAL LAND USE RELATIONSHIPS

Policy 2.1.1 Urban Growth Boundary (UGB). The Specific Plan shall establish an Urban Growth Boundary as shown in the General Plan.

- a) The General Plan UGB shall be the line beyond which no urban water and sewer services are provided, except in Zone B where limited potable water may be required for public health reasons.

Policy 2.1.2 Urban/Rural Transition. Rural areas shall be adequately buffered from development by means of the following land use elements:

- a) Land use intensity shall generally decrease in the outer portions of the Urban Area, meaning that lower density residential uses are located adjacent to rural areas.
- b) To the north, a greenbelt/buffer shall separate urban and rural uses.
- c) To the west, development shall end at the urban growth boundary, located generally at the toe of existing hillside slopes or at steeper slope transitions. Existing canyons shall be preserved as resource areas.
- d) In the eastern portion of the Urban Area, the bird's beak habitat shall be preserved. The FCC facility will remain active and the Specific Plan proposes a reconfiguration of the existing site to better serve the FCC, enhance residential and school development opportunities and protect the bird's beak habitat.

Policy 2.1.3 May School Road Greenbelt. A buffer shall be required between those areas designated rural and new urban uses within the North Livermore Plan Area.

- a) Establish a buffer flanking May School Road, separating Zone A housing areas from Zone B.
- b) Access to new urban housing shall be from the south within Zone A, rather than off May School Road.
- c) The buffer shall be landscaped at such time as reclaimed water is available for irrigation. The buffer shall be planted and include trails for equestrians, bicyclists and hikers and may also include storm drainage channels and underground utilities.

Policy 2.1.4 Pattern of Development. The pattern of development shall reflect the two major types of terrain within the Urban Area and provide for the following.

- a) In hillside areas located in the southwest and southeast portions of the Plan Area, where slopes are generally between 5% and 15%, roads shall be designed in a curvilinear pattern following the natural topography. Layout of such roads shall minimize the need for extensive grading while appropriately serving the lower density housing in these areas.
- b) In the flatter portions of the valley, collector streets shall be located and designed to create an interconnected grid pattern which provides easy orientation and supports the full range of residential and commercial uses of the central area. East/west streets shall generally provide for continuous connections across the valley.
- c) Connector and local streets shall connect to and terminate at public uses, parks and open space to the extent possible.
- d) Roadways shall be located to define relatively small neighborhoods focused on parks and neighborhood schools.
- e) Commercial services shall be concentrated within a Village Core – a single, mixed use center located central to the Urban Area, with residential support commercial and civic uses as well as higher density housing. Other Village Core support commercial uses shall be limited to the locations shown by the Land Use Plan.

Policy 2.1.5 Open Space System. The pattern of development shall establish the following open space system.

- a) Creek and drainage corridors including Cayetano Creek, Arroyo Las Positas, Arroyo Seco, Collier Canyon Creek and the proposed East Creek corridor.
- b) Community Park uses located to form an interconnected park system that physically links the western hillsides to the High School and FCC site.
- c) Rural Area greenbelt/buffer flanking May School Road.
- d) Neighborhood parks consisting of eight to ten acre parks adjacent to elementary schools and two to eight acre parks within neighborhoods.
- e) Smaller, 1-2 acre neighborhood parks located central to residential neighborhoods, providing an area of focus and activity.
- f) Hillside trails located within Zone C.
- g) Landscape corridors with multi-use paths along major streets.
- h) A 94 acre Environmental Park located adjacent to the Bird's Beak/Alkali Sink Reserve, providing permanent protection of sensitive habitat located in that area.

Policy 2.1.6 Agricultural Protection. The long term viability of agriculture shall be protected through the use of such tools as "Right-to-Farm" ordinances and deed restrictions on adjacent urban development.

- a) The City of Livermore's "Right-to-Farm" ordinance requires that prior to the purchase of any property within the North Livermore Plan Area and located within 2,000 feet from an active agricultural use, prospective purchasers shall read and sign a statement (to be permanently attached to the deed on purchase of the property) which requires the prospective buyer to acknowledge the historical and on-going presence of agricultural operations within the Plan Area, explains the type of activities which may be expected to take place in routine agricultural operations locally and informs the prospective buyer of the provisions of the Right-to-Farm ordinance.
- b) This declaration shall explicitly state that noise, dust, odors and other effects related to routine agricultural operations are allowable, and are not subject to control or regulation in response to complaints from residents nearby.

Table 2.1: Land Use Program for Zone A

LAND USE	AREA (ac)*	UNITS (or SF)	LAND USE	AREA (ac)*
RESIDENTIAL			SCHOOLS	
RVL Very Low	142	280	ES Elementary (5)	40
RL Low	531	1,930	MS Middle (2)	40
RM Medium	884	5,300	HS High (1)	58
RMH Medium High	336	2,690	Subtotal	138
RMH Med. High (Village Core)	10	80	PARKS	
RH High	84	1,470	NP Neighborhood Parks	86
RH High (Village Core)	37	750	CP Community Park	80
Subtotal	2,024	12,500	CP Village Commons	4
VILLAGE CORE (Mixed Use)			Subtotal	170
VC Retail / Office / Civic / Institutional	58	476,000	OPEN SPACE	
VC Village Commons (included in CP)	—	—	EP Environmental Park	94
VC MHD Residential (included in RMH)	—	—	May School Road Greenbelt	28
VC HD Residential I (included in RH)	—	—	CC Creek Corridors **	212
Subtotal	58	476,000	RSM Resource Management+	24
COMMERCIAL			Subtotal	358
CS Support Commercial	20	218,000	OTHER USES	
Subtotal	20	218,000	I FCC	120
SUBTOTAL			CR Gun Club	22
2,102			CF Cemetery	50
			Primary Roads	228
			Subtotal	428
			SUBTOTAL	1,094
			ZONE A TOTAL	3,188
Notes * Land use areas include all local and connector street ROW; and exclude arterial street ROW. ** Includes a portion of the creek corridors flanking the multi-use trails. + Eastern portion of Rod and Gun Club ++ Includes Arterial Streets and Connector Streets located between public uses and within the Village Core				

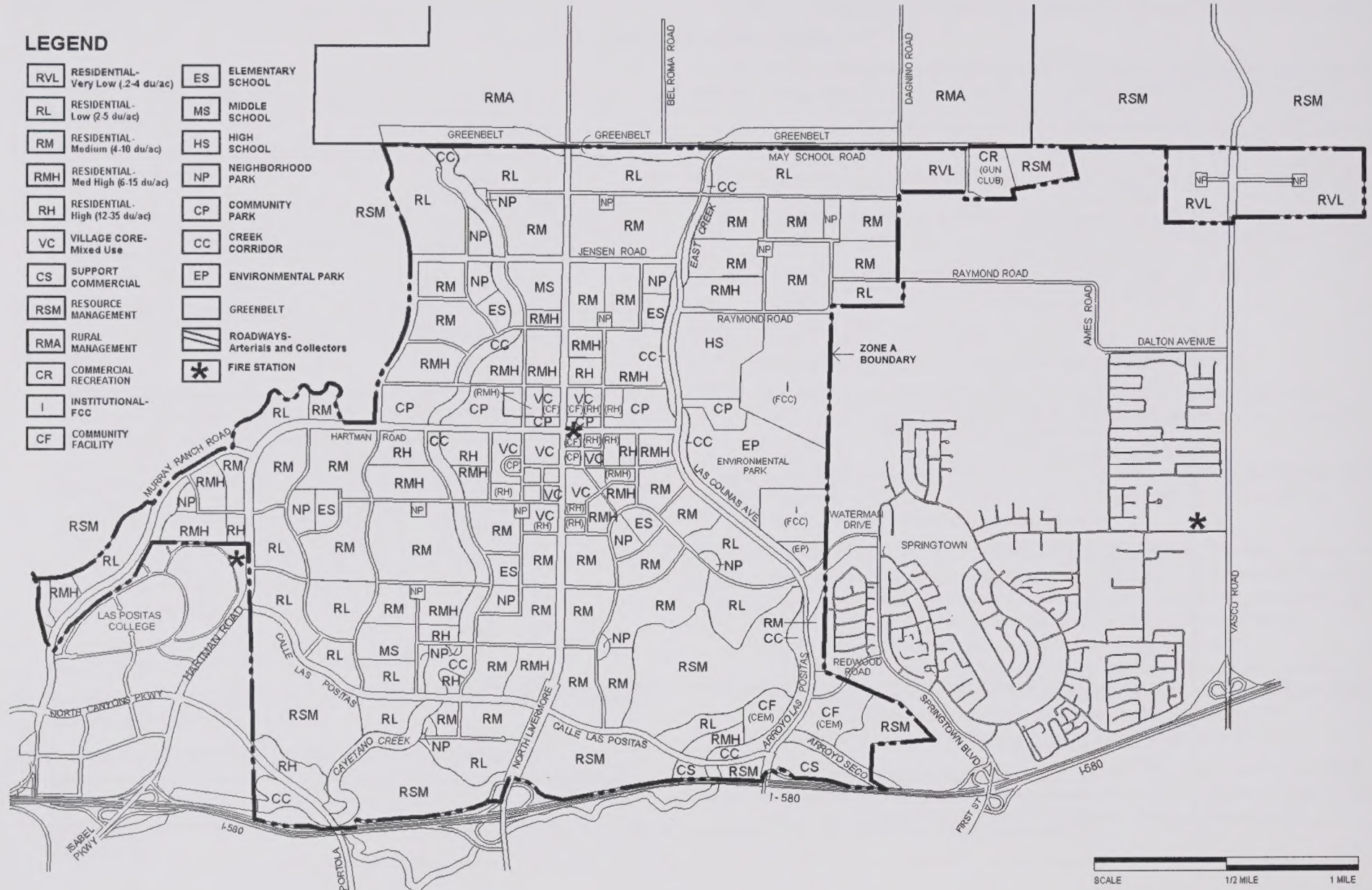


FIGURE 2.1: LAND USE PLAN

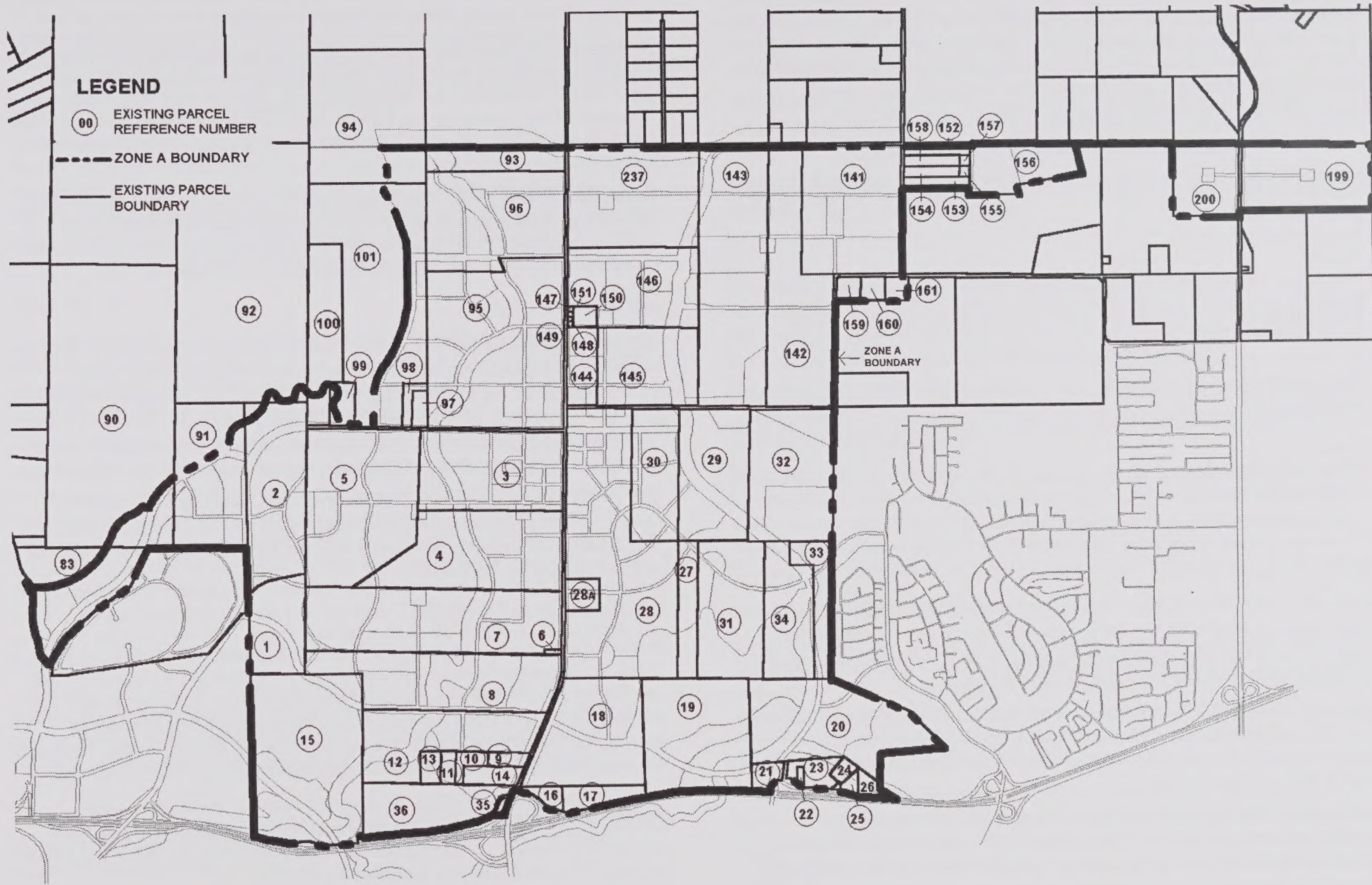


FIGURE 2.2: ZONE A EXISTING PARCELS

2.2 LAND USE DESIGNATIONS

The Land Use Plan and Land Use Program (Figure 2.1 and Table 2.1) include five categories of residential use, two types of commercial uses, public facilities including parks and schools, and open space designations. Table 2.2: Land Use Designations and Densities provides additional information. For zoning designations, see Chapter Eight: Implementation.

Table 2.2: Land Use Designations and Densities

RESIDENTIAL DESIGNATION	ABBR.	MINIMUM DU/AC	MAXIMUM DU/AC
Very Low	RVL	0.2	4.0
Low	RL	2.0	5.0
Medium	RM	4.0	10.0
Medium High	RMH	6.0	15.0
High	RH	12.0	35.0
COMMERCIAL DESIGNATION	ABBR.	MINIMUM FAR	MAXIMUM FAR
Support	CS	-	0.35
Village Core (Mixed Use)	VC	see Table 2.5	no maximum
Commercial Recreation	CR	NA	NA

RESIDENTIAL LAND USES

Residential - Very Low (RVL). This single family detached housing type is the lowest density proposed for the Urban Area and is located in the northeastern portion of the Urban Area, abutting Rural and Resource Management Areas. The allowable densities range from 0.2 to 4 units per acre.

Residential – Low (RL). This single family detached housing type will consist of medium to large lots and is located primarily at the perimeter of the community adjacent to the greenbelt and hillside open space. Allowable densities range from 2 to 5 units per acre.

Residential – Medium (RM). Medium density uses will comprise the predominant residential use in North Livermore. The land use is intended to provide a wide range of housing types and densities. Housing types will consist primarily of detached homes on small to medium lots, but may also include

detached, auto-court homes, small lots with non-rectangular configurations and low density townhomes. Allowable densities range from 4 to 10 units per acre.

Residential - Medium High (RMH). This housing designation will provide for a variety of residential home types, including small-lot detached homes, auto court homes, townhomes, and low density flats. Uses are located generally near the center of the community, adjacent to creek corridors, near Las Positas College and within the Village Core. Allowable densities range from 6 to 15 units per acre.

Residential – High (RH). This housing type will consist of attached dwellings such as high density townhomes, garden apartments and stacked flats located in and near the Village Core, near Las Positas College and adjacent to the Cayetano Creek Corridor. Allowable densities range from 12 to 35 units per acre.

MIXED LAND USES

Village Core - Mixed Use (VC). The Village Core is an approximately 109-acre mixed use area located central to the community, with retail, office, civic/institutional, park, and higher density residential uses. The mixed use designation is intended to allow a variety of uses and flexibility over time, such that the area develops into an active center providing support uses, services and activities. The acreage includes adequate area for potential expansion of retail and office uses.

The Village Core is intended to provide commercial services and a community focus for North Livermore residents. Its central location is closely linked to the Community Park and civic uses, and it includes areas for higher density housing to encourage pedestrian activity.

COMMERCIAL LAND USES

Support Commercial and Service (CS). Areas designated as Support Commercial and Service are located near the intersection of Las Colinas Avenue and I-580. This area will function as an extension of the Las Positas Road commercial corridor along the south side of the freeway, and is intended to provide sites for support uses that do not require direct freeway access. Some uses are anticipated to provide commercial services for adjacent residential areas.

Commercial Recreation (CR). A total of 22 acres for use by the existing Livermore Rod & Gun Club in the northeastern area immediately south of the Urban/Rural Boundary, near Dagnino Road. The remaining portion of the 46-acre parcel is designated Resource Management (RSM).

PARKS

Neighborhood Park (NP). Twenty-two neighborhood parks are distributed throughout the Urban Area, with sizes ranging from 1.5 to 10 acres each and a total acreage of 86 acres. Five of these parks, ranging in size from eight to 10 acres, are located adjacent to elementary schools.

Community Park (CP). 84 acres of community park use will run east-west through the middle of the Urban Area, providing an open space connection to the western hillsides, the two creeks, the Village Core, the high school, and the eastern environmental park resource area. The community park includes two, two acre parks constituting the 'Village Commons', one along the east side of North Livermore Avenue, and the other terminating 'Market' Street on the west side.

OPEN SPACE

The Specific Plan provides other, important open space lands within the urban area. These multiple-use areas include a portion of the Cayetano and East Creek corridors, the May School Road Greenbelt south of May School Road, the Environmental Park as well as resource management areas.

Creek Corridors (CC). Six primary creek corridors occur within the Urban Area: existing Arroyo Seco; existing Arroyo Las Positas; the existing Cayetano Creek running north/south through the valley west of North Livermore Avenue; a new drainage way east of North Livermore Avenue connecting to Arroyo Las Positas and Arroyo Seco, proposed to be named "East Creek"; a short segment of Collier Creek located along Collier Canyon Road and Murray Ranch Road, and an unnamed creek/drainage between the north side of Las Positas College and Murray Ranch Road that originates in the Zone C hills north of the College. The corridors will serve multiple purposes of recreation, flood control and wildlife habitat. See Figure 5.7 for minimum dimensions of creek corridors.

Corridors a minimum of 250 feet wide accommodate the existing Arroyo Las Positas, Arroyo Seco, and Collier Creek. The Cayetano Creek corridor is no less than an average of 250 feet in width in the northern portions, and wider in the southern portions due to existing wetlands and the need for greater channel capacity.

The East Creek corridor is typically 150 feet in width except for areas adjacent to the Environmental Park/Preserve where the width may be reduced to avoid impacts to existing resource areas.

The corridor along Murray Ranch Road/Las Positas College is a minimum of 100 feet in width.

Environmental Park (EP). The Environmental Park consists of 94 acres adjacent to the existing Natural Communities Reserve (EMAX), located at the eastern terminus of Hartman Road. The Environmental Park may include interpretive trails, signage, another visitor facilities.

May School Road Greenbelt. A 250 to 400-foot wide open space corridor located along the urban/rural line on the south and north sides of May School Road.

Resource Management Area (RSM). Includes 24 acres in the eastern portion of the Gun Club site and the I-580 Hills.

SCHOOLS

Elementary School (ES). Five elementary schools are distributed to equally serve neighborhoods within the Urban Area. Each school is located adjacent to a neighborhood park a minimum of eight acres in size. A portion of each of the parks will be designated for joint use by the adjacent school.

Middle School (MS). Two middle schools, one in the southern and one in the northern portion of the Urban Area, are located adjacent to the Cayetano Creek corridor and accessible by trails.

High School (HS). The high school consists of a 58-acre site adjacent to the existing FCC site between Springtown and the North Livermore Community Park, immediately north of the community park that runs east-west through the middle of the Urban Area. The site is adjacent to a 12-acre portion of the Community Park which is intended to provide joint use facilities.

COMMUNITY FACILITIES (CF)

Community facilities include but are not limited to public and private facilities, including fire and police stations, libraries, public agency offices, transit facilities, post office or other public facilities. Three fire station sites have been identified to serve North Livermore and adjacent areas. Diagrammatic fire station sites are shown on the Land Use Plan (Figure 2.1). One station is located within the Specific Plan Area at the Village Core (see Section 2.8).

Private community facilities include a 50-acre cemetery site in the southeast portion of the Plan Area near the Las Colinas overcrossing. Other community facilities may include private schools or day care facilities, libraries, community centers, or other facilities available to the community for cultural or educational purposes.

Public uses (serving the general public at public expense) are permitted, while private uses shall require a conditional use permit.

Churches are permitted within all CF areas and as conditional uses in all residential, commercial and institutional land use areas.

INSTITUTIONAL (I)

FCC. An area of approximately 120 acres is reserved for use by the Federal Communications Commission monitoring in the eastern portion of the Urban Area near Springtown, adjacent to the existing Bird's Beak/Alkali Sink Reserve within the City. The proposed site reconfigures the existing FCC property to maintain necessary clearances for the monitoring antennas. Additionally, the proposed site provides protection and buffer for existing bird's beak habitat.

As part of the Project, a land trade is proposed which would result in the re-location of a portion of the FCC facility to an area designated for habitat protection, and away from those portions of the Project Area which have been proposed for residential development. This land trade would relocate the FCC facilities further south of their current location, as shown in the Land Use Plan (Figure 2.1). This land trade would have the effect of partially mitigating potential development impacts on the FCC facility. Placement of the FCC equipment in the habitat protection area is not expected to have any significant adverse effects on the plants and wildlife in that area because of the low intensity of this use.

Policy 2.2.1 FCC Site Relocation. In the event that the FCC use relocates out of Zone A, the site shall be re-designated as Environmental Park or residential, as appropriate based on the presence of sensitive or protected environmental resources. However, the 12,500 unit residential cap for Zone A shall still apply.

2.3 LAND OWNERSHIP AND LAND USE ALLOCATION

More than 40 landowners own lands within the Urban Area, with several landowners holding more than one Assessor Parcel (Parcel). Furthermore, in many areas, the land use areas indicated by the Land Use Plan do not coincide with property boundaries.

This section addresses property ownerships within the Urban Area and describes how to translate the land uses areas on the Land Use Plan to legal parcels. In order to implement the community-wide goals of 12,500 housing units, approximately 476,000 square feet of Village Core commercial space, and 218,000 square feet of support commercial space, this Specific Plan assigns a

maximum development program to each Parcel (see Table 2.4). It also assigns a land use to each Parcel, thereby offering a range of allowable densities and hence a variety of acceptable development products.

Figure 2.2: Land Use and Existing Parcels, Table 2.3: Existing Parcel Information and Table 2.4: Land Use by Existing Parcel provide information for each Parcel including land uses, acreage and ownership. Figures 2.3 and 2.4 provide an example for calculating land use density, and Figure 2.5: Example of Possible Unit Allocation by Property provides a further explanation of how to distribute land uses within a Parcel.

The Specific Plan includes the following policies to ensure that development within the Plan Area will remain consistent with population projections of ABAG, ECAP and the NLGPA:

Policy 2.3.1 Applying Land Use Designations to the Plan. The total of all residential units within the Urban Area shall not exceed 12,500 units. Land uses shall be located according to the following:

- a) The development program (number of residential units, permissible intensity of commercial development, allocation of public uses for each parcel) is specified by Table 2.4 Land Use by Existing Parcel. This program shall be distributed between Parcels as indicated by Figure 2.1: Land Use Plan and Figure 2.2 Land Use Plan and Existing Parcels.
- b) The maximum and minimum development intensity of these land uses shall fall within the density ranges shown in Table 2.2 Land Use Designations and Densities, for each land use area:
 - i. Land use areas include local and connector street ROWs, but exclude arterial street ROWs, creek corridors and other designated land uses;
 - ii. The density ranges set the upper and lower limits of development intensity within a land use area boundary;
 - iii. Development intensity within the land use areas may vary within these ranges so long as all development is consistent with the land use designation, its intensity falls within the allowed density range, and the Parcel's maximum development program is not exceeded.
- c) In distributing land use density within a land use area, higher densities should be located closer to more urban uses, and lower densities should be located adjacent to similar development types or open space.
- d) All land uses are subject to the policies, regulations and standards of this Specific Plan.

Policy 2.3.2 Minimum Units. At buildout, each parcel shall include a minimum of 80% of units assigned to the parcel.

Policy 2.3.3 Land Use Splits, Transfers and Forfeitures. Land uses shall be transferred, split, or otherwise reallocated according to the following:

- a) If an existing Parcel is sold or transferred to another owner, the allocated land use shall be transferred along with the Parcel. In the event an existing Parcel is split, the original Parcel land use allocation shall be split amongst the new Parcels. The number of units or other land use allocation to be assigned to the new Parcels shall be proposed by the sub-divider and shall be administratively approved by the Community Development Department. The proposed allocation shall establish new parcel unit counts which fall within the range of the land use designation(s) applicable to the location of the new parcel. The total allocation shall match the number defined by this Specific Plan for the existing parcel.
- b) The allocations shown in this Specific Plan are to be used to arrive at development proposals for Parcels within the plan. The final rights to develop to the levels of these allocations will be subject to the approval of development plans consistent with this Specific Plan.
- c) Except as described below, in the event the land use program designated for a Parcel is not fully used, the unused portion of the allocation (residential units) shall be forfeited and may not be transferred to any other land or ownership.
- d) Transfers of unused portions of a parcel's development program are allowed between contiguous parcels within the same ownership provided a single Tentative Subdivision Map is filed for both parcels. Such transfers shall comply with the land use areas described by Figure 2.1: Land Use Plan, and shall be subject to the unit counts assigned in Table 2.4 and the intensity ranges for each applicable residential land use.
- e) Any forfeited land use allocation shall be tracked by the City and may be allocated to future development areas within the urban area boundaries of this Plan and subject to the 12,500 unit cap. In evaluating such proposals, the City shall give priority to production of affordable housing and encouraging higher density housing within the Village Core.
- f) For non-contiguous parcels, transfers of dwelling units may be allowed, subject to the following conditions:
 - i. Parcels shall be under the same ownership at the time of the transfer.
 - ii. Neither parcel shall violate the minimum or maximum units allowed under the density range for the parcel.
 - iii. A Development Agreement shall be negotiated that codifies the shift in units and which clearly defines financing obligation for each parcel.

Table 2.3: Existing Parcel Information (As of October 1999)

Ref. # (Fig. 2.2)	Assessor Parcel #	Overall Parcel Size (ac)	Current Owner (Name)	Ref. # (Fig. 2.2)	Assessor Parcel #	Overall Parcel Size (ac)	Current Owner (Name)	Ref. # (Fig. 2.2)	Assessor Parcel #	Overall Parcel Size (ac)	Current Owner (Name)
1	903-0008-001-01	50.0	Lin	28A		9.0	Jensen	147	902-0011-005-02	5.5	Lind
2	903-0008-001-02	100.2	Kiely	29	902-0009-001-05	83.8	Shea	148	902-0011-005-05	-	Lind
3	903-0008-002-02	108.0	Lin	30	902-0009-001-06	55.4	Shea	149	902-0011-005-06	-	Lind
4	903-0008-003-02	120.0	Lin	31	902-0009-002-01	80.0	Shea	150	902-0011-005-08	-	Lind
5	903-0008-002-04	139.1	Lin	32	902-0009-002-02	100.0	Shea	151	902-0011-005-09	-	Lind
6	903-0008-003-01	1.0	Carpenter	33	902-0009-003-01	25.0	Hartford Hills	152	902-0003-001-03	6.5	Stuart
7	903-0008-003-02	141.0	Carpenter	34	902-0009-003-02	55.0	Hartford Hills	153	902-0003-001-08	6.5	Moore
8	903-0008-004-01	110.9	Harbor View	35	099-0100-019-07	1.1	Jensen	154	902-0003-001-17	5.5	Basso
9	903-0008-004-05	5.0	Gach	36	099-0100-019-08	53.0	Jensen	155	902-0003-001-19	1.0	Rod & Gun
10	903-0008-004-07	5.0	Trujillo	83	903-0004-001	90.6	Murray	156	902-0003-001-20	46.0	Rod & Gun
11	903-0008-004-09	5.2	Hudgins	90	903-0003-002	320.8	Murray	157	902-0003-001-21	1.0	Rod & Gun
12	903-0008-004-11	80.0	Lin	91	903-0003-003-01	88.7	Murray	158	902-0003-001-22	5.5	Piercefield
13	903-0008-004-12	6.2	Quinn	92	903-0005-001	320.0	Marciel	159	902-0003-004-04	5.5	Chestnut
14	903-0008-004-14	10.0	Vanmatre	93	903-0006-001	543.8	Bank of West	160	902-0003-006	5.2	Diez
15	903-0009-006-02	163.1	Lin	94	903-0006-002	165.3	Marciel	161	902-0003-007	5.2	Bettencourt
16	99-0015-001-04	9.9	Horn	95	903-0006-003-004	211.7	Lin	199	99B-5300-001-02	79.0	Ralph
17	99-0015-007-03	12.4	Shea	96	903-0006-003-05	113.1	Stanley	200	99B-5300-0011-03	69.7	Rooney
18	99-0015-015-02	99.8	Shea	97	903-0006-004-01	5.0	Smistik	237	902-0010-006-00	123.0	Shea
19	99-0015-016-03	104.0	Schenone	98	903-0006-004-05	5.0	Thompson				
20	902-0008-001	122.5	Anderson	99	903-0006-004-04	10.0	Fagundes				
21	902-0008-005-05	4.0	Vidalin	100	903-0006-004-07	45.0	Pfiester				
22	902-0008-005-08	0.5	Parker	101	903-0006-004-08	184.0	LBC				
23	902-0008-005-09	8.9	Vidalin	141	902-0010-001	115.0	Lin				
24	902-0008-006	3.5	Calif. Water	142	902-0010-002-02	120.0	USA/FCC				
25	902-0008-007-02	2.0	Anderson	143	902-0010-003	158.4	Shea				
26	902-0008-008-02	3.9	Anderson	144	902-0010-004-01	22.0	Shea				
27	902-0009-001-03	24.1	Shea	145	902-0010-004-02	70.6	Shea				
28	902-0009-001-08	201.0	Shea	146	902-0010-005-02	89.8	Shea				

Table 2.4: Land Use by Existing Parcel

REFERENCE NUMBER	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
PARCEL AREA ac	50.0	100.2	108.0	120.0	139.1	1.0	142.0	110.9	5.0	5.0	5.2	80.0	6.2	9.7	163.0	9.9	12.4	99.8	104.0	122.5	4.0
Portion in Zone A ac	31.1	96.4	108.0	120.0	139.1	1.0	142.0	110.9	5.0	5.0	4.6	71.2	2.6	9.7	60.6	0.2	0.0	48.6	39.7	75.9	3.6
Portion in Zone B/C/D ac	18.9	3.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	8.8	3.6	0.0	102.4	9.6	12.4	51.3	64.3	46.6	0.4
LAND USE																					
RESIDENTIAL*																					
Very Low du	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Low du	92	163	0	0	0	0	128	100	15	18	17	58	9	31	25	0	0	0	54	0	0
Medium du	0	195	42	539	562	5	305	123	0	0	0	182	0	0	0	0	0	231	0	0	0
Medium High du	0	0	174	0	138	0	142	160	0	0	0	0	0	0	0	0	0	0	79	0	0
Village Core Medium High du	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
High du	0	0	349	0	256	0	126	72	0	0	0	0	0	0	234	0	0	0	0	0	0
Village Core High du	0	0	124	147	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PARCEL TOTALS du	92	358	689	686	956	5	701	456	15	18	17	240	9	31	259	0	0	231	133	0	0
VILLAGE CORE MIXED USE**																					
Retail/Office/Civic/Inst. ac			31.4																		
COMMERCIAL																					
Support Commercial ac																			4.4	1.7	0.3
SCHOOLS																					
Elem. School ac				8.0	8.0																
Middle School ac							10.0	10.0													
High School ac																					
PARKS and OPEN SPACE																					
Neighborhood Park ac		8.0	1.3	1.9	2.8		10.0	5.0				2.0									
Community Park ac																					
Village Commons ac			2.0																		
Creeks ac			9.1	9.5			8.4	14.7				13.7	0.1		26.3				5.6	18.8	0.2
Green Belt ac																					
Environmental Park ac																					
Zone A Resource Mgmt ac																					
OTHER USES																					
Gun Club ac																					
Cemetery ac																				50.0	
FCC ac																					
PRIMARY ROADWAYS																					
Arterial ROW ac	5.7	11.2	2.0	1.6	3.1	0.2	1.5	7.7	0.8			9.3		1.1	11.5	0.2		10.0	5.0	5.5	3.0
Collectors in VC and Between Public Uses ac			7.9	1.6			1.3	1.3													

Notes: * Residential use areas include local and connector street ROW.

** Public and Village Core uses exclude local and connector street ROW.

TABLE 2.4: LAND USE BY EXISTING PARCEL - PAGE 2

REFERENCE NUMBER	22	23	24	25	26	27	28	28.A	29	30	31	32	33	34	35	36	83	90	91	92	93
PARCEL AREA ac	0.5	8.9	3.5	2.0	3.9	24.1	200.7	9.3	83.8	55.4	80.0	100.0	25.0	55.0	1.1	53.0	90.6	320.8	88.7	320.0	544.0
Portion in Zone A ac	0.5	8.9	3.5	2.0	3.9	14.9	188.6	9.3	83.8	55.4	54.8	100.0	25.0	28.1	1.1	3.7	47.0	23.3	61.0	2.9	33.3
Portion in Zone B/C/D ac	0.0	0.0	0.0	0.0	0.0	9.2	12.1	0.0	0.0	0.0	25.2	0.0	0.0	26.9	0.0	49.3	43.6	297.5	27.7	317.1	510.7
LAND USE																					
RESIDENTIAL*																					
Very Low du	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Low du	0	0	0	0	0	2	0	0	27	0	167	4	0	56	0	13	53	34	12	11	82
Medium du	0	0	0	0	0	85	576	49	100	120	39	0	55	0	0	0	0	0	67	0	0
Medium High du	0	0	0	0	0	0	145	0	0	111	0	0	0	0	0	0	81	26	214	0	0
Village Core Medium High du	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
High du	0	0	0	0	0	0	119	0	0	47	0	0	0	0	0	0	0	0	90	0	0
Village Core High du	0	0	0	0	0	0	355	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PARCEL TOTALS du	0	0	0	0	0	88	1194	49	127	278	206	4	55	56	0	13	134	61	384	11	82
VILLAGE CORE MIXED USE**																					
Retail/Office/Civic/Inst. ac							18.9														
COMMERCIAL																					
Support Commercial ac	0.5	8.9	1.5	1.5	1.1																
SCHOOLS																					
Elem. School ac							0.9			7.1											
Middle School ac																					
High School ac																					
PARKS and OPEN SPACE																					
Neighborhood Park ac							9.4			1.0	2.4								4.0		
Community Park ac							6.2		6.1	7.3											
Village Commons ac							2.0														
Creeks ac			2.0	0.5	2.8				9.7	0.3		1.4	6.3	8.6			10.6	5.5	1.0		4.5
Green Belt ac																					5.9
Environmental Park ac									2.4	36.0		50.2	7.2	0.2							
Zone A Resource Mgmt ac																					
OTHER USES																					
Gun Club ac																					
Cemetery ac																					
FCC ac												46.9									
PRIMARY ROADWAYS																					
Arterial ROW ac							7.3	1.1	7.7	3.2		0.5	1.8	3.8	1.1		11.7	5.1	9.7		0.4
Collectors in VC and Between Public Uses ac							5.6						0.5								

TABLE 2.4: LAND USE BY EXISTING PARCEL - PAGE 3

REFERENCE NUMBER	94	95	96	97	98	99	100	101	141	142	143	144	145	146	147	148	149	150	151	152
PARCEL AREA ac	165.3	211.7	113.1	5.0	5.0	10.0	45.0	184.0	115.0	120.0	158.4	22.0	70.6	89.8	0.3	0.3	0.3	4.4	0.3	6.5
Portion in Zone A ac	13.3	211.7	113.0	5.0	5.0	3.4	7.1	57.9	115.0	120.0	158.4	22.0	70.6	89.8	0.3	0.3	0.3	4.4	0.3	6.5
Portion in Zone B/C/D ac	152.0	0.0	0.0	0.0	0.0	6.6	37.9	126.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LAND USE																				
RESIDENTIAL*																				
Very Low du	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13
Low du	45	0	149	0	0	0	0	65	153	51	81	0	0	0	0	0	0	0	0	0
Medium du	0	206	238	0	0	16	39	53	388	277	261	0	0	193	0	0	0	0	0	0
Medium High du	0	545	0	0	5	0	0	112	0	0	213	68	258	170	1	1	1	35	1	0
Village Core Medium High du	0	80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
High du	0	0	0	0	0	0	0	0	0	0	0	136	41	0	0	0	0	0	0	0
Village Core High du	0	0	0	0	0	0	0	0	0	0	0	37	87	0	0	0	0	0	0	0
PARCEL TOTALS du	45	831	387	0	5	16	39	230	541	328	555	240	387	364	1	1	1	35	1	13
VILLAGE CORE MIXED USE**																				
Retail/Office/Civic/Inst. ac		4.8										2.9								
COMMERCIAL																				
Support Commercial ac																				
SCHOOLS																				
Elem. School ac		8.0												8.0						
Middle School ac		20.0																		
High School ac											36.7		8.8	2.7						
PARKS and OPEN SPACE																				
Neighborhood Park ac		7.5	10.0						6.0	1.0	1.0			8.0						
Community Park ac		26.8		4.8	4.3		7.8				11.4		12.2							
Village Commons ac																				
Creeks ac	0.2	21.5	14.4								3.4		5.2	6.0						
Green Belt ac	0.8								2.3	0.8	3.1									
Environmental Park ac																				
Zone A Resource Mgmt ac																				
OTHER USES																				
Gun Club ac																				
Cemetery ac																				
FCC ac										58.0	10.5									
PRIMARY ROADWAYS																				
Arterial ROW ac		5.6	8.0	0.2	0.1	0.7	0.6	9.5				1.4	4.5	11.6	0.1	0.1	0.1		0.1	
Collectors in VC and Between Public Uses ac		5.1											1.1							

TABLE 2.4: LAND USE BY EXISTING PARCEL - PAGE 4

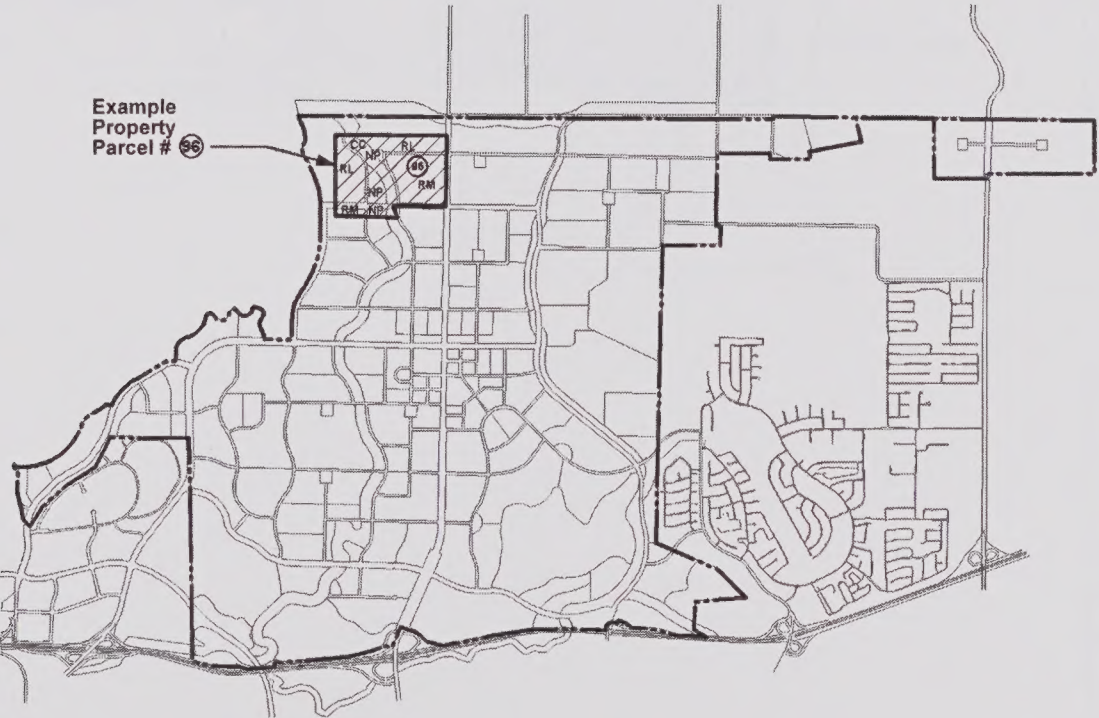
REFERENCE NUMBER	153	154	155	156	157	158	159	160	161	199	200	237	ROW
PARCEL AREA ac	6.5	5.5	1.0	46.0	1.0	5.5	5.5	5.2	5.2	79.0	69.7	123.0	
Portion in Zone A ac	6.5	5.5	1.0	46.0	1.0	5.5	5.5	5.2	5.2	79.0	43.5	123.0	32.0
Portion in Zone B/C/D ac	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	26.2	0.0	
LAND USE													
RESIDENTIAL*													
Very Low du	13	11	2	0	2	11	0	0	0	149	80	0	0
Low du	0	0	0	0	0	0	20	19	19	0	0	156	0
Medium du	0	0	0	0	0	0	0	0	0	0	0	352	0
Medium High du	0	0	0	0	0	0	0	0	0	0	0	7	0
Village Core Medium High du	0	0	0	0	0	0	0	0	0	0	0	0	0
High du	0	0	0	0	0	0	0	0	0	0	0	0	0
Village Core High du	0	0	0	0	0	0	0	0	0	0	0	0	0
PARCEL TOTALS du	13	11	2	0	2	11	20	19	19	149	80	515	0
VILLAGE CORE MIXED USE**													
Retail/Office/Civic/Inst. ac													
COMMERCIAL													
Support Commercial ac													
SCHOOLS													
Elem. School ac													
Middle School ac													
High School ac													
PARKS and OPEN SPACE													
Neighborhood Park ac										1.5	1.5	2.0	
Community Park ac													3.1
Village Commons ac													
Creeks ac												1.6	0.2
Green Belt ac												15.4	
Environmental Park ac													
Zone A Resource Mgmt ac				24.2									
OTHER USES													
Gun Club ac				21.8									
Cemetery ac													
FCC ac													4.7
PRIMARY ROADWAYS													
Arterial ROW ac										1.7	1.5	1.5	24.0
Collectors in VC and Between Public Uses ac													

EXAMPLE PROPERTY

Figures 2.3, 2.4 and 2.5 show several alternative examples for the allocation of units within a single Assessor Parcel. The example used is Parcel Reference #96, from Table 2.4. The residential land use program for this parcel is:

- Residential Low (RL): 149 Units
- Residential Medium (RM): 238 units
- Total 387 units

(Note: Example given is for illustration purposes only).



Example for Parcel 903-0006-003-05			
Table 2.3: Existing Parcel Information (As of October 1999)			
Ref. # #	Assessor Parcel #	Overall Parcel Size (ac)	Current Owner (Name)
96	903-0006-003-05	113.07	Stanley

FIGURE 2.3: EXAMPLE PROPERTY-LOCATION

Example for Parcel 903-0006-003-05

TABLE 2.4: LAND USE BY EXISTING PARCEL

REFERENCE NUMBER		96
OVERALL PARCEL SIZE	ac	113.1
LAND USE		
RESIDENTIAL		
Very Low	units	
Low	units	149
Medium	units	238
Medium High	units	
Medium High-Village Core	units	
High	units	
High-Village Core	units	
PARCEL TOTALS	units	387
VILLAGE CORE		
Retail/Office	ac	
Civic/ Inst.	ac	
COMMERCIAL		
Village Core Commercial	ac	
Support Commercial	ac	
SCHOOLS		
Elem. School	ac	
Middle School	ac	
High School	ac	
PARKS and OPEN SPACE		
Neighborhood Park	ac	10.0
Community Park	ac	
Creeks	ac	14.4
Green Belt	ac	
Zone A Resource Mgmt.	ac	
OTHER USES		
Gun Club	ac	
Cemetery	ac	
FCC	ac	
MAJOR ROADWAYS		
Arterial ROW	ac	8.0
Collectors in VC/Public Areas	ac	

Criteria for Assigning Residential Density to Parcels

- Each Assessor Parcel is assigned a housing unit program (see Table 2.4: Land Use by Existing Parcel and Figure 2.2: Land Use and Existing Parcels).
- Units may be located on any residential portion of the Parcel; however, intensity of development must fall within the density range assigned to each land use area (see Table 2.2: Land Use Designations).
- Under certain conditions units may be transferred to another parcel (see Policy 2.3.3).

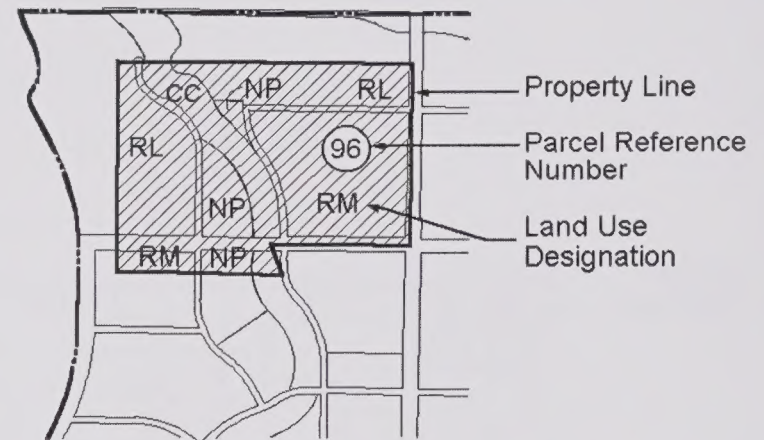
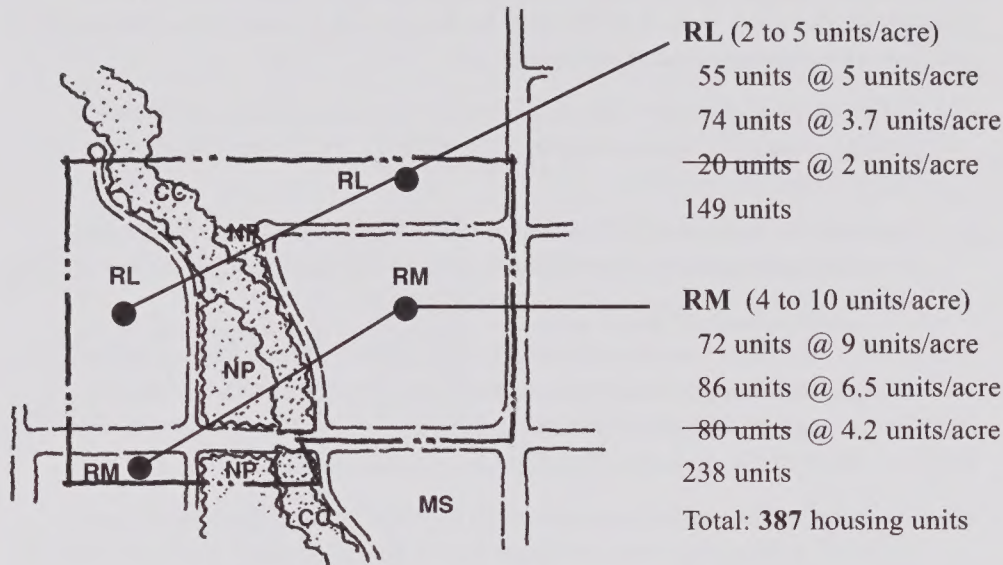
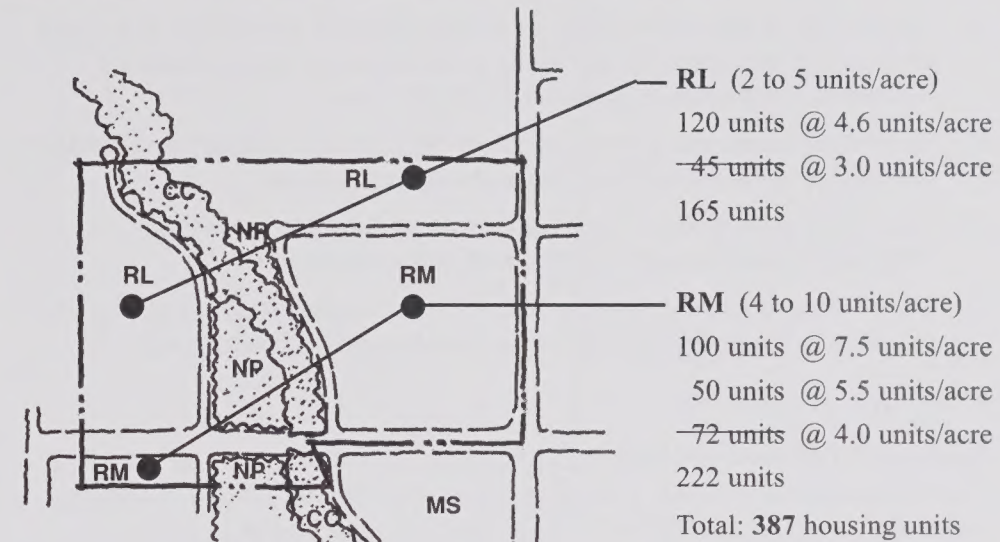


FIGURE 2.4: EXAMPLE PROPERTY-LAND USE

EXAMPLE #1: Build out full residential program;
no shift of density between residential land uses within the Parcel.



EXAMPLE #2: Build out full residential program;
shift density between residential land uses within the Parcel.



EXAMPLE #3: Build out below Parcel's full residential program,
but within the 80% minimum required units.

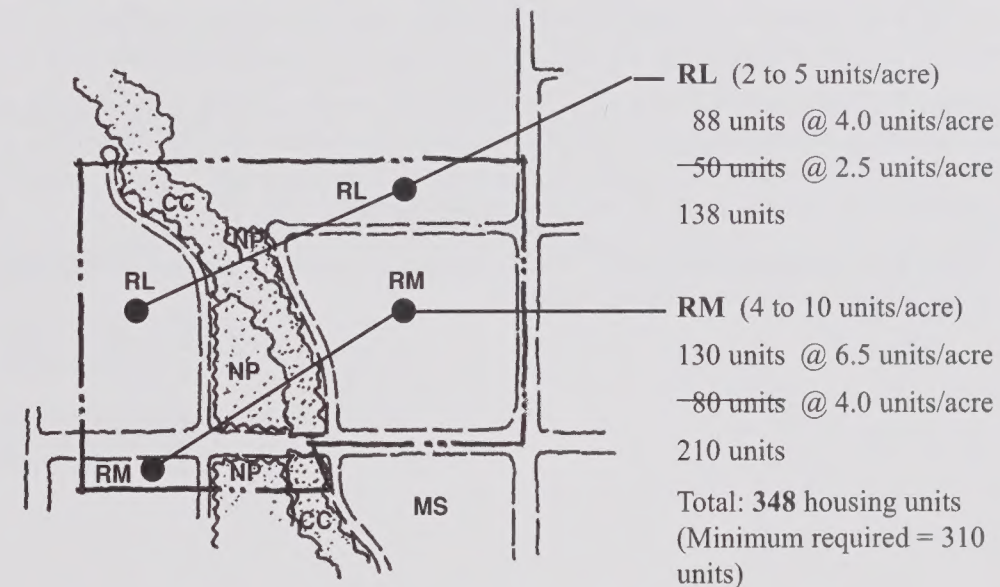


FIGURE 2.5: EXAMPLE OF POSSIBLE UNIT ALLOCATION BY PROPERTY

2.4 RESIDENTIAL GOALS AND POLICIES

RESIDENTIAL GOALS

- A. To provide an adequate supply of residential land designated in a range of densities to respond to the needs of all income groups, within a maximum development program of 12,500 units.
- B. To provide a compact pattern of small residential neighborhoods which are clustered around parks and neighborhood schools.
- C. To provide a diversity of housing types and densities as well as affordable housing opportunities within the community.
- D. To provide residential housing types and development patterns that are sensitive to topographic features and other physical constraints.

RESIDENTIAL POLICIES

Policy 2.4.1 Location and Density Range. Residential uses shall be located in areas designated by Figure 2.1: Land Use Plan, and shall be within the density ranges for each land use (Table 2.2: Land Use Designations and Densities).

Policy 2.4.2 Mix of Densities and Variety. Subject to the applicable density range, and the minimum number of units required for each parcel, a mix of densities and a variety of housing types shall be provided for each Land Use Area (see Chapter Seven).

Policy 2.4.3 Location of High Density Housing. High density housing shall generally be located near the Village Core and adjacent to recreational uses.

Policy 2.4.4 Secondary Dwelling Units. Secondary dwelling units are permitted for all lots greater than 6,000 square feet, subject to the approval of a Conditional Use Permit. Secondary units shall be consistent with standards in Chapter 7, and the City of Livermore Zoning Ordinance, as applicable.

Policy 2.4.5 Home Occupations. Home occupations shall be permitted subject to the City of Livermore Zoning Ordinance.

2.5 I-580 SCENIC CORRIDOR

The following policies reference areas within the I-580 scenic corridor shown on Figure 2.6.

Policy 2.5.1 Zone C/I-580 Hills. The majority of near views of the scenic hillsides on the north side of I-580 shall be designated as Resource Management and preserved as open space (see Figure 2.1).

- a) Principal uses allowed within the Resource Management Area include grazing, raising of field crops, vines and other agricultural crops, and multi-purpose recreational trails.
- b) Approval of incidental and accessory structures such as barns and any proposed grading such as terracing for vineyards shall require conditional use permits subject to Scenic Route Element policies.

Policy 2.5.2 North Livermore Avenue/I-580 Interchange. Grading and land contouring as necessary to construct improvements to the North Livermore interchange shall be designed to create natural appearing landforms and visually shield as much of the on-ramp and off-ramp roadways as feasible.

- a) The proposed interchange design shall provide for construction of a new “hillside” within the center of the proposed new cloverleaf on the northeast quadrant of this interchange.
- b) Native species shall be used for landscaping in and around the proposed new interchange (see Chapter Seven).
- c) Grading for North Livermore Avenue improvements and adjacent land uses shall be allowed as necessary to ensure that road grades at major intersections can accommodate proper road design (grade, sight distance, etc.).
- d) Grading activity shall be allowed on the knoll west of North Livermore Avenue and north of Calle Las Positas, even though it is within the 3,500 foot I-580 Scenic Corridor and has steep slopes. This grading activity would partially maintain a natural-appearing landform that could act as a visual screen and noise buffer for proposed residential uses immediately north of Calle Las Positas.

Policy 2.5.3 Creek Corridors. Both Cayetano Creek (at the western end of the Plan Area) and the Arroyo Las Positas (at the eastern end of the Plan Area) provide a significant visual resource along I-580, with their riparian vegetation and some taller trees providing the only vegetative variety across this mostly grassland environment, and the channels themselves providing topographic variety across the fairly flat plain. Each of these creeks shall be preserved within a proposed creek corridor open space area.

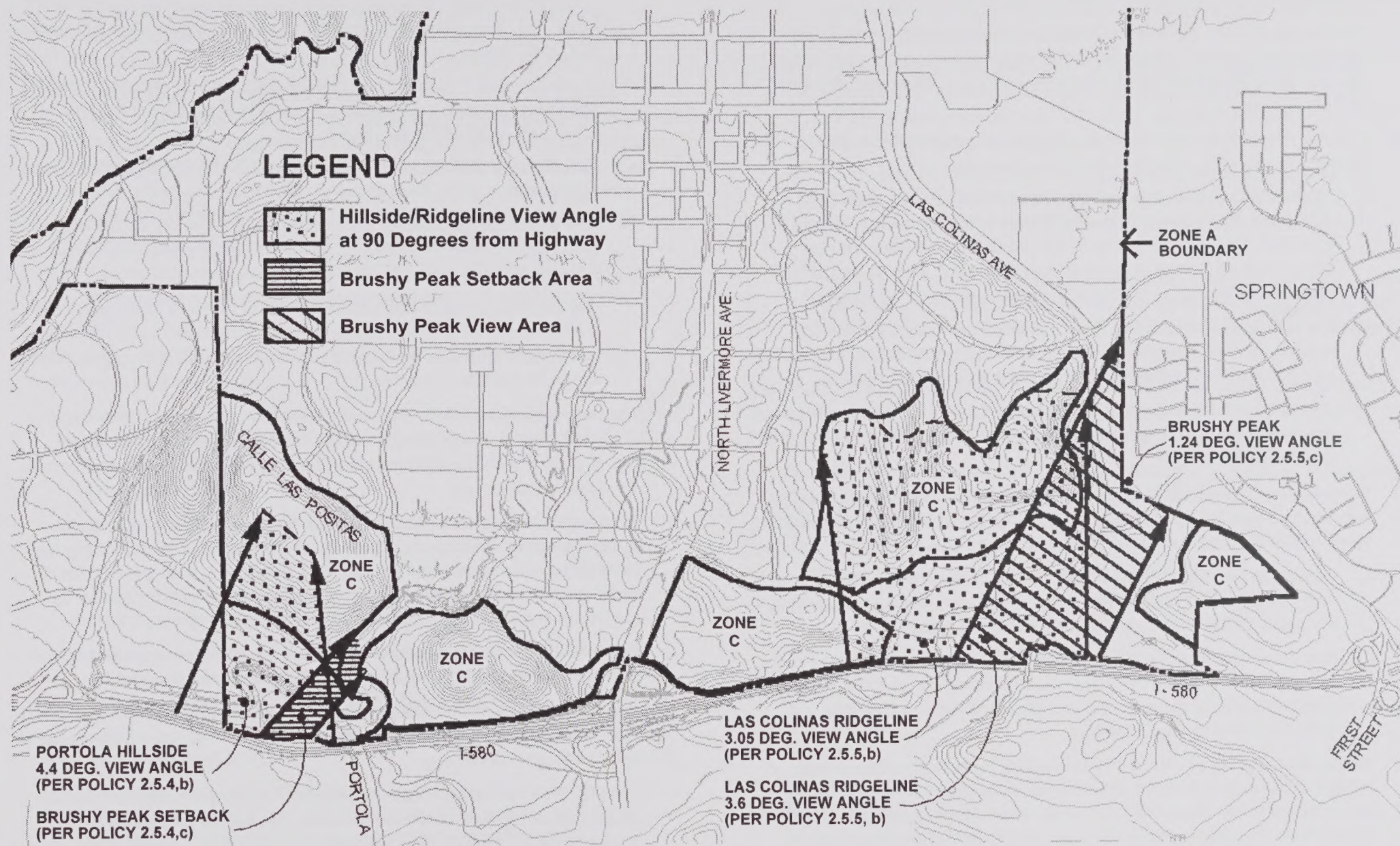


FIGURE 2.6: I-580 SCENIC CORRIDOR POLICY APPLICATION AREAS

Policy 2.5.4 Multi-Family Site at Cayetano Creek and North Canyons

Parkway. Minimize potentially significant obstruction or alteration of significant visual resources at this location by implementing the following:

- a) Preserve views from the freeway of the Las Positas and Cayetano Creek in the foreground of this location by designating a minimum 250 foot wide corridor along the channel as Resource Management, allowing only open space land uses.
- b) Preserve a significant portion of the ridgeline and upper hillside in this location as a primary visual feature of the landscape.
 - i. The top 50% of the ridgeline (as seen from a 90 degree angle from I-580) provides an appropriate significant visual resource that should be protected. The 50% mid-point is defined as one half of the rise in elevation from the toe of existing slope (the break point at which the slope exceeds 10%) to the top of the highest point on the ridgeline.
 - ii. A view angle of 4.4 degrees from a point 4 feet above the roadway surface and along the shoulder of the furthest right westbound travel lane on I-580 shall be established to preserve this 50% mid-point.
 - iii. Any proposed development at this proposed multi-family site shall be required to limit the height of proposed structures to stay below this established view angle.
- c) Views of Brushy Peak can be seen through a limited view corridor through this site. The total length of this corridor is approximately 600 feet, providing views of Brushy Peak for approximately 4 to 5 seconds to motorists on I-580.
 - i. Protect the easterly 300 feet of this Brushy Peak view corridor by establishing a view setback line within which development (other than necessary public works projects) would be precluded.
 - ii. Any development proposed on the multi-family site at Cayetano Creek and North Canyons Parkway (portion of existing Parcel 15) shall be required to stay to the west of this established viewshed. (Figure 2.2: Land Use and Existing Parcels).
- d) Minimize alterations or changes to the existing topography within areas defined as visually significant. Where unique site characteristics as defined herein would render the majority of a site unbuildable if grading was limited to less than 10% slopes, grading may be permitted on slopes less than or equal to 15%, plus an additional area equivalent to 5% of the area on slopes of between 15% and 20% provided that all of the following findings can be made:

- i. Unique site characteristics limit the development potential of the site. Unique site characteristics shall include the presence of a creek that is contiguous to an I-580 scenic corridor, a single parcel of more than 100 acres, and limited buildable area due to site topography such as ridges and steep slopes.
 - ii. A minimum of 85% of the site shall be dedicated for permanent public open space through a mechanism acceptable to the City at the time of Final map approval for the project.
 - iii. Development shall be set back a minimum of 100 feet from the existing top of bank.
 - iv. Any additional graded area within the 15 to 20% slope portion of the site shall be distributed evenly along the 15% slope, but shall not intrude into the adjacent 20% slope area.
 - v. Any grading activities that cut into the lower portions of the hillside shall be required to meet existing ground contours at a point lower than mid-way to the top of the hillside (the 50% midpoint elevation defined above for hillside protection).
 - vi. Any grading activities required to remediate potentially hazardous soils conditions above this mid-point shall restore finished grades to pre-existing conditions. Terracing and benching of this slope above the mid-point is prohibited.
- e) Alternative grading concepts that provide for more naturally-appearing, rounded contours starting at the base of the development, and blending into existing contours on the upper portions of the hillside, may be considered based on subsequent detailed grading designs, subject to findings that the conditions required under guideline d) above can be met.
 - f) Per the City's Scenic Route Element, necessary public works projects (such as roadways or bridges) shall be exempt from these requirements).

Policy 2.5.5 Las Colinas Overpass Area. (See Figure 2.6) Minimize potentially significant obstruction or alteration of significant visual resources in this location by implementing the following:

- a) Preserve views of Arroyo Las Positas in the foreground of this location by designating a 250 foot wide corridor along the channel as Resource Management, allowing only open space land uses.
- b) Preserve a significant portion of the hillside and upper ridgeline in this location as a primary visual feature of the landscape.

- i. The top 50% of the ridgeline (as seen from a 90 degree angle from I-580) provides an appropriate significant visual resource that should be protected. The 50% mid-point is defined as one half of the rise in elevation from the toe of existing slope (the break point at which the slope exceeds 10%) to the top of the highest point on the ridgeline.
 - ii. A view angle of 3.6 degrees from a point 4 feet above the roadway surface and along the shoulder of the furthest right westbound travel lane on I-580 shall be established as preserving this 50% mid-point for the most easterly ridgeline. A additional view angle of 3.05 degrees from a point 4 feet above the roadway surface and along the shoulder of the furthest right westbound travel lane on I-580 shall be established as representing this 50% mid-point for the westerly ridgeline area.
 - iii. Any development along the front of these hills shall be required to limit the height of proposed structures to stay below this established view angle.
- c) Preserve a significant portion of the viewshed of Brushy Peak from the highway along this location.
- i. Views of Brushy Peak can be seen along a fairly extensive view corridor through this site. The total length of this corridor is approximately 1,800 feet, providing views of Brushy Peak for approximately 20 to 25 seconds to motorists on I-580.
 - ii. The upper 50% of this view corridor, defined as 50% of the angle from the edge of the highway, at any point along the highway, to the top of Brushy Peak (at elevation 1,705 feet) shall be retained in a permanent viewshed. The 50% view angle from any point along the highway is approximately 1.24 degrees.
 - iii. Any proposed development along this corridor, other than necessary public works projects, shall be required to limit the height of proposed structures to stay below this established view angle.
- d) Minimize alterations or changes to the existing topography within areas defined as visually significant.
- i. Natural ground contours in slope areas over 10% should not be altered more than 5% overall, except where stands of mature vegetation, scenic formations, or natural watercourses exist where grading should be limited to preserve natural features.
 - ii. Within an area between the edge of the highway and an area 2,000 feet from the edge, grading alterations are permitted on slopes less than or equal to 10%, and an additional area equivalent to 5% of the area on slopes of 10 to 15% may be altered.
 - iii. Within the area from 2,000 to 2,500 feet from the highway, grading alterations are permitted on slopes less than or equal to 15%, and an additional area equivalent to 7.5% of the area on slopes of 15% to 20% may be altered, and
 - iv. Within the area from 2,500 to 3,500 feet from the highway, grading alterations are permitted on slopes less than or equal to 20%, and an additional area equivalent to 7.5% of the area on slopes of 20 to 25% may be altered.
 - v. Any grading activities required to remediate potentially hazardous soils conditions above the 50% midpoint shall restore finished grades to pre-existing conditions. Terracing and benching of this slope above the midpoint shall be prohibited.
- Policy 2.5.6 The Saddle Area.** As many as ten to fifteen homes may be visible through the “saddle” in the existing topography approximately mid-way between North Livermore Avenue and the Las Colinas overpass.
- a) No additional fill or raising of existing elevations to accommodate residential development shall be allowed within his “saddle” area if such fill would increase the visibility of proposed homesites.

2.6 AFFORDABLE HOUSING

The North Livermore Affordable Housing Program (Program) requires that property owners developing housing in North Livermore contribute toward fulfilling the ABAG regional housing goals within North Livermore.¹

The Program requires property owners to provide a minimum of 10 percent of the units within North Livermore as a mix of low and very low income units. This percentage is based on the historical percentage of affordable units constructed in Livermore since 1989. The moderate-income housing goal will be substantially met within the range of market-rate units constructed in North Livermore. In certain circumstances, the Program requires property owners to pay a fee on market-rate units. The City and County will use revenues generated by the fee to work toward fulfilling the ABAG regional housing goals that are not met within the North Livermore Area. It is the intent of the City and County to provide opportunities within the Program.

AFFORDABLE HOUSING REQUIREMENTS

Policy 2.6.1 Affordable Housing Obligations. Owners of residential land will be required to satisfy the affordable housing obligations in one of the following three methods:

- a) **Method 1.** Construct a minimum of 10 percent of the units identified in Table 2.4 for occupancy by very low and low income households, including 3 percent affordable to very low income households and 7 percent affordable to low income households. Property owners may provide the affordable units in a number of ways as identified in Affordable Housing Options (see Policy 2.6.3), or in another manner approved in advance by the City. The means of satisfying the affordable requirements will be specified in a regulatory agreement to be negotiated by the property owner (or developer) and the City. Affordable units will be subject to affordability restrictions described below (see Policies 2.6.9 and 2.6.10). Property owners (or developers) complying with this option will not be required to pay a fee.
- b) **Method 2.** Dedicate land within Zone A of sufficient size, shape, value, and approved density suitable for construction of a minimum of 10 percent of the property owner's unit count as defined in Table 2.4. The land shall be dedicated to the City or a non-profit affordable housing developer acceptable to the City. Dedicated land must have all land-based assessments funded, and all site-based improvements, including curbs, gutters, sidewalks, etc. either

installed or funded. The property owners (or developers) must also fund all of the regional and local development impact fees applicable at the time the land is donated, except school impact fees, or assure through a development agreement that these fees will be paid. The developer of the affordable units will pay the school impact fees. The term "funded" as used here shall mean that fees or the assessments are either paid by the property owner (or developer) to the City or guaranteed through a surety acceptable to the City. The City shall encourage the affordable housing developer to secure funding adequate to pay the local development impact fees. In the event funding is secured sufficient to pay the local development impact fees the property owner initially funding these costs shall be reimbursed proportional to his contribution.

- c) **Method 3.** Property owners with a total parcel area as defined in Chapter Two of this plan of less than 10 acres, as of the adoption of the Specific Plan, may pay an in-lieu fee assessed at \$25,000 per developable residential acre, exclusive of arterial roadways.

IN-LIEU FEE

Policy 2.6.2 In-lieu Fee Assessment. In-lieu fees assessed based on acreage (see Method 3 above) will be due at final map approval. The in-lieu fee will increase annually based upon the following inflationary index: the Southern Alameda County Association of Realtors (SACAR) Median Single Family Home Price for the City of Livermore (or "SACAR SF index"). The base year for the index will be 2001.

- a) Fees shall be paid into a fund managed by the City of Livermore. The City will allocate fee revenues on a competitive basis to specific programs and projects that assist development and/or maintenance of additional affordable housing in Livermore, with first priority given to projects which serve the residents of North Livermore.
- b) The City will work cooperatively with Alameda County to allocate funds that remain uncommitted to affordable housing projects after three years from the date of the funds' receipt. These funds will be jointly administered by the City and County and made available for development of affordable housing opportunities in Alameda County, with a priority given to projects that serve residents of the Livermore-Amador Valley, which includes the cities of Dublin, Livermore, Pleasanton and unincorporated portions of Alameda County.

¹The current ABAG affordable housing targets for the Tri-Valley area are 21% Moderate Income (81% to 120% of median income), 15% Low Income (51% to 80%) and 22% Very Low Income (less than 50%).

AFFORDABLE UNIT DEVELOPMENT

While individual property owners are responsible for ensuring that the required affordable units are provided, a great deal of flexibility regarding how the units are provided has been built into the Program.

Policy 2.6.3 Affordable Housing Options. Any options or combinations of options which will result in the development of an equal or greater number of required affordable units may be used to achieve the affordable housing requirements. Options include, but are not limited to, the following list:

- a) Individual property owners may construct the units as part of their market-rate developments.
- b) Several property owners who are eligible to proceed in the same phase of development may pool their resources, and one or more of these property owners may meet the pooled requirements as part of its (their) market-rate developments.
- c) Property owners may contract with nonprofit and other developers of affordable housing to provide these units within the current phase of development.
- d) Property owners may dedicate to the City, or to a non-profit developer acceptable to the City, one single-family home within each single-family development as affordable housing for special needs populations—such as persons with AIDS and/or the disabled—to live in a group home setting. Each bedroom in such a designated unit counts as one unit, up to a total of six units per any single-family home. The level of affordability varies with the target population.
- e) Units may be rental or for-sale. For-sale units may be condominiums, townhomes, duplexes, or single-family homes.
- f) Up to 10 percent of a property owner's affordable housing requirement may be met by the creation of secondary dwelling units and these units may then be counted toward the production of low income housing units. To be eligible, a secondary dwelling unit must be a housing unit with a kitchen and bathroom as defined by the City of Livermore's Zoning Code. No long term affordability agreement will be required on these units.

Policy 2.6.4 City and County Responsibilities. The City and County shall:

- a) Provide technical assistance to property owners regarding affordable housing development resources.
- b) Facilitate partnerships between North Livermore property owners and developers and managers of affordable housing.
- c) Identify and work with property owners to secure resources available to assist development of required affordable housing.
- d) Use best efforts to issue tax-exempt bonds that meet affordable housing requirements and standards of credit-worthiness.
- e) Provide density bonuses to developments that meet state residential density bonus requirements.
- f) Facilitate the development of affordable units in a cost-effective manner by considering flexibility in development standards which complement the North Livermore Specific Plan design objectives.
- g) Support affordable housing developments which provide affordable housing consistent with the requirements of the North Livermore Specific Plan.

Policy 2.6.5 North Livermore Property Owners' Responsibilities. The North Livermore Property Owners shall be responsible for the following:

- a) Meet the obligations of the affordable housing goals through one of the three methods described above.
- b) Work with City and County staff and experienced developers of affordable housing in order to achieve feasible project financing plans.
- c) Diligently pursue other resources available for the development of affordable housing as identified by the City, County, or other parties.

Policy 2.6.6 Phasing. Land owners and the City shall, in the course of defining development agreement affordable housing requirements, identify a phasing plan that ensures the timely, generally concurrent, development of affordable housing units. Such a plan shall be guided by the following:

- a) Each tentative map or project-level development agreement approval shall define precisely where, how and when the project's affordable housing requirement is to be met.

- b) Unless otherwise specified in a development agreement, production of low and very low income housing shall be phased so as to be generally concurrent with the production of market rate homes. An exception to this may be the first five years of development when infrastructure and transit will not be in place near many of the higher density sites within the plan. If agreed to in a development agreement, a portion of the required units may be deferred to the second five years of development. The development agreement shall identify how the affordable units required from growth during the first five years of development will be constructed during the next five years of development.

TENURE

Policy 2.6.7 Affordable Rental Units. Affordable rental units shall be affordable to and occupied by very low and low income households for 55 years.

- a) Rental projects will be subject to a regulatory agreement with the City of Livermore for the term of affordability. The regulatory agreement will contain mutually agreeable requirements related to high quality property management and maintenance, annual household income certification, non-discriminatory leasing policies and crime prevention programs.
- b) In order to streamline project administration, the City of Livermore will consider alternative formats for regulatory agreements if such formats are defined as part of a state and or federal funding award for an affordable apartment development.
- c) The owner shall provide a certification annually (or on an alternative time schedule as required by the City of Livermore) verifying that the terms of the regulatory agreement have been met.

Policy 2.6.8 Affordable For-sale Units. Affordable for-sale units will be subject to recorded deed restrictions wherein the value of the assistance (defined as the difference between market rate of the unit and the amount paid by the home buyer), plus market rate interest on the value of assistance, is due upon sale or transfer of the unit. These funds will be returned to the City's affordable housing fund and used to provide affordable housing to low income or very low income households in North Livermore to the extent possible.

AFFORDABILITY RESTRICTIONS

Policy 2.6.9 Definition of Very Low and Low Income. Very low income households are those with incomes at or below 50 percent of Area Median Income (AMI), adjusted for household size. Low income households are those households with incomes between 51 and 80 percent AMI.

- a) Very low and low income figures will be calculated based on annually adjusted income levels for Alameda County published by the U.S. Department of Housing and Urban Development (HUD). HUD defines very low income households as those with incomes up to 50% of AMI and low income households as those with incomes between 51% and 80% of AMI. A national cap further limits the low-income maximum for a four-person household in the San Francisco Bay Area to a maximum of 100% of the national median income.
- b) The City may deem acceptable different definitions of income levels that are used by other affordable housing financing sources.

Policy 2.6.10 Affordable Rents and For-Sale Housing Prices. The City of Livermore will publish a schedule of affordable rents and for-sale housing prices for very low, low, and moderate-income households for use by developers and property owners in North Livermore.

- a) The schedule will be updated based on annual income limits, adjusted for household size, which are provided by the U.S. Department of Housing and Urban Development (HUD) to the California State Department of Housing and Community Development (HCD) and subsequently to each county and city in the state.
- b) The definition for affordable housing cost for rental housing in North Livermore will be a maximum expenditure of 30 percent of gross household income—adjusted for family size by target income group—for rent plus utilities (based on a standard utility allowance as defined by HUD or the local housing authority).
- c) The definition for affordable housing cost for ownership housing in North Livermore will be a maximum expenditure of 30 percent of gross household income—adjusted for family size by target income group—for principal and interest on mortgage loans and any associated loan fees (assuming a five percent down payment, 30-year fixed-rate mortgage with prevailing interest rate—7.5 percent for 1999), property taxes and assessments, fire and casualty insurance and homeowners association fees.

- d) The City may deem different definitions of affordable housing cost that are used by other affordable housing financing sources acceptable.

DENSITY BONUS

Policy 2.6.11 State Law. The City shall comply with state law which requires that a density bonus of 25 percent over the otherwise maximum allowable number of units be provided to property owners who reserve:

- a) 10 percent of the total units for very low income households,
- b) 20 percent of the total units for low income households, or
- c) 50 percent of the total units for senior housing as defined by Section 51.2 of the Civil Code of the State of California.

Policy 2.6.12 Additional Incentives and Flexibility in Design Standards.

Additional incentives may include reduced minimum lot sizes and/or dimensions, reduced minimum lot setbacks, density bonuses of greater than 25 percent and flexibility in development standards which complement the North Livermore Specific Plan design objectives. Density bonuses shall be requested at the time of tentative tract map or site plan application and, if approved, granted at the time of tentative map or site plan approval.

2.7 COMMERCIAL

The Plan designates two distinctly different types of commercial land uses. These are the mixed use districts within the Village Core, and the Support Commercial and Service area along I-580 near Las Colinas Avenue.

The intent of these commercial designations is to provide for local shopping and service needs, to minimize vehicular shopping trips, to establish a mixed use activity center for the new community and to maintain the viability of existing and planned local and regional retail enterprises, including downtown Livermore.

COMMERCIAL GOALS

- A. To provide an adequate supply of commercial land designated for a range of uses to serve the needs of North Livermore and Springtown residents.**
- B. To concentrate the majority of commercial uses in the Village Core.**
- C. To provide a diversity of commercial and public uses in the Village Core sufficient to create a critical mass of pedestrian-oriented and community-wide activity.**

SUPPORT COMMERCIAL AND SERVICE

The Plan designates 20 acres of support commercial use at I-580 and the Las Colinas overcrossing. The area is located immediately adjacent to the freeway and is suitable for commercial development. The sites will function as an extension of the existing Las Positas Road commercial corridor and are suitable for uses which do not require direct freeway access.

Policy 2.7.1 Support Commercial and Service. Support commercial uses shall be located at the I-580 and Las Colinas overcrossing, and shall provide locations for such commercial development such as open field athletic facilities, nurseries, automobile repair and home improvement stores.

2.8 VILLAGE CORE

BACKGROUND

The Village Core is located east and west of North Livermore Avenue, just south of the intersection with Hartman Road. The total land area designated Village Core (VC) is approximately 109 acres. The Village Core is intended to be the “heart” of the North Livermore community, providing essential community uses such as neighborhood retail shopping, commercial offices, restaurants, religious institutions, civic uses and community green in a compact walkable area. The Village Core is designed to not compete with downtown Livermore, but will contain the commercial and retail space necessary to provide services for residents north of I-580.

The Village Core is designed to provide flexibility to respond to changing retail, office and institutional needs over the buildout of the Plan. As such, the Village Core provides land that could be used for a variety of uses and could accommodate substantial retail, office and institutional area as well as are for residential development, with the higher FARs encouraged in the Core. However, since the Village Core is designed to only contain space necessary to provide services for residents north of I-580, a market absorption study was conducted to help determine the maximum amount of square footage able to be absorbed within the Core given current retailing trends. The analysis concluded that less than 500,000 square feet of non-residential uses could be absorbed given current market conditions. For this reason, Policy 2.8.2 limits the total amount of retail, office, institutional and civic uses.

The first phase of the Village Core commercial area is anticipated to be built in year six, followed by additional retail and office uses. The second community shopping area would most likely not occur until around year 12 or later. The amount of residential units constructed in the Village Core will also fluctuate over the build-out of the Plan. The Plan includes approximately 825 units that may be built within the Village Core boundary.

The Specific Plan establishes performance standards within the Village Core to ensure that certain goals are met, particularly as it relates to establishing a street wall along the east/west retail street (“Market Street”), around the Village Commons, and along North Livermore Avenue.

VILLAGE CORE LAND USE AND URBAN DESIGN

The Village Core Land Use Program (Table 2.5) indicates the parcels, land uses, acreages, minimum Floor Area Ratios (FARs), and minimum densities for residential uses within the Village Core. Parcels are net of abutting street ROW.

Village Core Land Use by Percentage (Table 2.6) indicates a desired range of uses by percentage. The mix is advisory to allow for flexibility in changing market conditions, and the final mix may vary.

Policy 2.8.1 Village Core Land Uses. The Village Core shall be developed according to Figure 2.7: Village Core Land Use Plan, Table 2.5: Village Core Land Use Program, and Table 2.6: Village Core Land Use by Percentage.

Policy 2.8.2 Village Core Development. The total amount of commercial and civic/institutional development in the Village Core shall be limited to 476,000 square feet.

a) Maximum FAR for any parcel within the Village Core shall be 1.0.

Policy 2.8.3 Allocation of Land Uses. Land uses shall be located as follows:

- a) Retail uses shall be established primarily along the three blocks of the central east/west street (Market Street), and around the Village Commons east of North Livermore Avenue.
- b) Village Core Commercial shopping uses that require larger sites shall be configured as anchors to the east/west streets, with adequate parking and visibility from both North Livermore Avenue and Hartman Road.
- c) Office uses shall be either part of mixed-use development along Market Street (e.g. second story) or stand alone facilities.
- d) Community Facilities/civic uses shall be considered in the block to the east of North Livermore Avenue and south of Hartman Road, and possibly to the west of North Livermore at the western end of Market Street.
- e) Park uses shall be located in the Village Commons fronting North Livermore Avenue, and at the terminus of Market Street to the west.

- f) Residential uses shall surround and be immediately adjacent to and above the other Village Core uses. To further establish the Village Core as a vibrant center, high density residential uses are encouraged elsewhere within walkable distances of commercial services in the Village Core.

Policy 2.8.4 Thresholds for Deviation from Standards. Consideration will be given for deviation from Plan requirements for aggregation of parcels, changes to the street grid, required building locations (except as noted above) and location of pedestrian corridors, if one or more of the following thresholds are achieved:

- a) If the FAR on parcels A, B, D, M, N, or P exceeds .35.
- b) If 50% or more of the building space that conforms to Figure 2.25 is second story residential and/or office uses.
- c) If the total amount of approved commercial and civic/institutional use exceeds 450,000 square feet.

Policy 2.8.5 Village Core Commercial Areas. Village Core Commercial Area (Parcels E, L) proposals shall meet the following conditions:

- a) Three fourths (75%) of the street fronting retail (E-1, L-1) as indicated in Figure 2.7 and Figure 7.25 is included in the development proposal and planned to be constructed either before or simultaneously with the larger anchor stores.
- b) The Site Plan for the Parcel in which the Neighborhood Shopping Center is located shall indicate the location of the 75% street fronting uses.

Policy 2.8.6 Retail/Commercial North of Hartman Road. In order to ensure that the “heart” of the Village Core retail and commercial core is implemented, the following requirements shall be met prior to approval of any retail or commercial uses located north of Hartman Road:

- a) Three fourths or 75% (338,000 SF) of the projected market absorption of non-residential uses for the Village Core south of Hartman Road is approved, under construction, or built; or,
- b) The parcels south of Hartman Road have approved development plans for residential development which preclude the development of 338,000 square feet of non-residential development.

Policy 2.8.7 Village Core Parcelization. The Village Core shall be divided into approximately 23 separate parcels, and four sub-parcels, some of which may be combined to form larger parcels as the retail and commercial markets change and evolve over the next ten to twenty years. The parcels shall be configured in small and large blocks within the overall circulation pattern established for the North Livermore area. While the urban design vision for the Village Core emphasizes a geometric center with smaller blocks, some flexibility in land assembly may be permitted.

Policy 2.8.8 Urban Design. All development within the Village Core shall comply with the provisions of Chapter Eight: Community Design, with the intent of creating a street-oriented, urban environment with an emphasis on high quality pedestrian amenities and uses. Building performance standards for uses within the Village Core are included in Chapter Seven.

Table 2.5: Village Core Land Use Program

Parcel	Land Use Designation / Permitted Use	Area (ac)	Minimum FAR's	Minimum units/ac
A	Community Facilities/ Civic/Mixed Use	2.2	.26	-
B*	RH/Mixed Use	2.5	.26	12
C	Park/Open Space	2.0	-	-
D*	Commercial Office/Mixed Use	2.8	.26	-
D-1	Retail	-	.33	-
E	Village Core Commercial	12.0	.25	-
E-1	Retail	-	.33	-
F*	RH/Mixed Use	2.7	.26	12
G	RH-Residential High Density	3.1	-	12
H*	RH/Mixed Use	6.5	.26	12
I	Community Facilities/ Mixed Use	4.8	.20	-
J	RH-Residential High Density	4.9	-	12
K	RH	5.5	-	12
L	Village Core Commercial	10.1	.30	-
L-1	Retail	-	.33	-
M	Community Facilities/ Civic/Mixed Use	2.3	.33	-
N	Retail	3.1	.33	-
O*	Commercial Office/Mixed Use	2.3	.33	12
P*	Commercial Office/Mixed Use	3.1	.33	12
Q	RH	7.5	-	12
R	Park/Open Space	2.0	-	-
S	RH	4.5	-	12
T*	Commercial Office/Mixed Use	10.5	.28	6
U	Community Facilities/ Mixed Use	4.8	.20	12
V	RMH-Res. Medium High	4.3	-	6
W	RMH-Res. Medium High	5.5	-	6
Total		109.0		

* These parcels may have combinations of residential and non-residential uses or contain only one use.

^ Net of public streets.

Table 2.6: Village Core Land Use Range by Percentage

Land Use	Minimum Percentage of Developable Area	Maximum Percentage of Developable Area
Community Facilities/Civic uses	2%	10%
Residential Uses	30%	55%
Commercial (Office/Retail)	10%	25%
Community Shopping Area	9%	30%
Community Facilities/ Institutional Uses	4%	15%

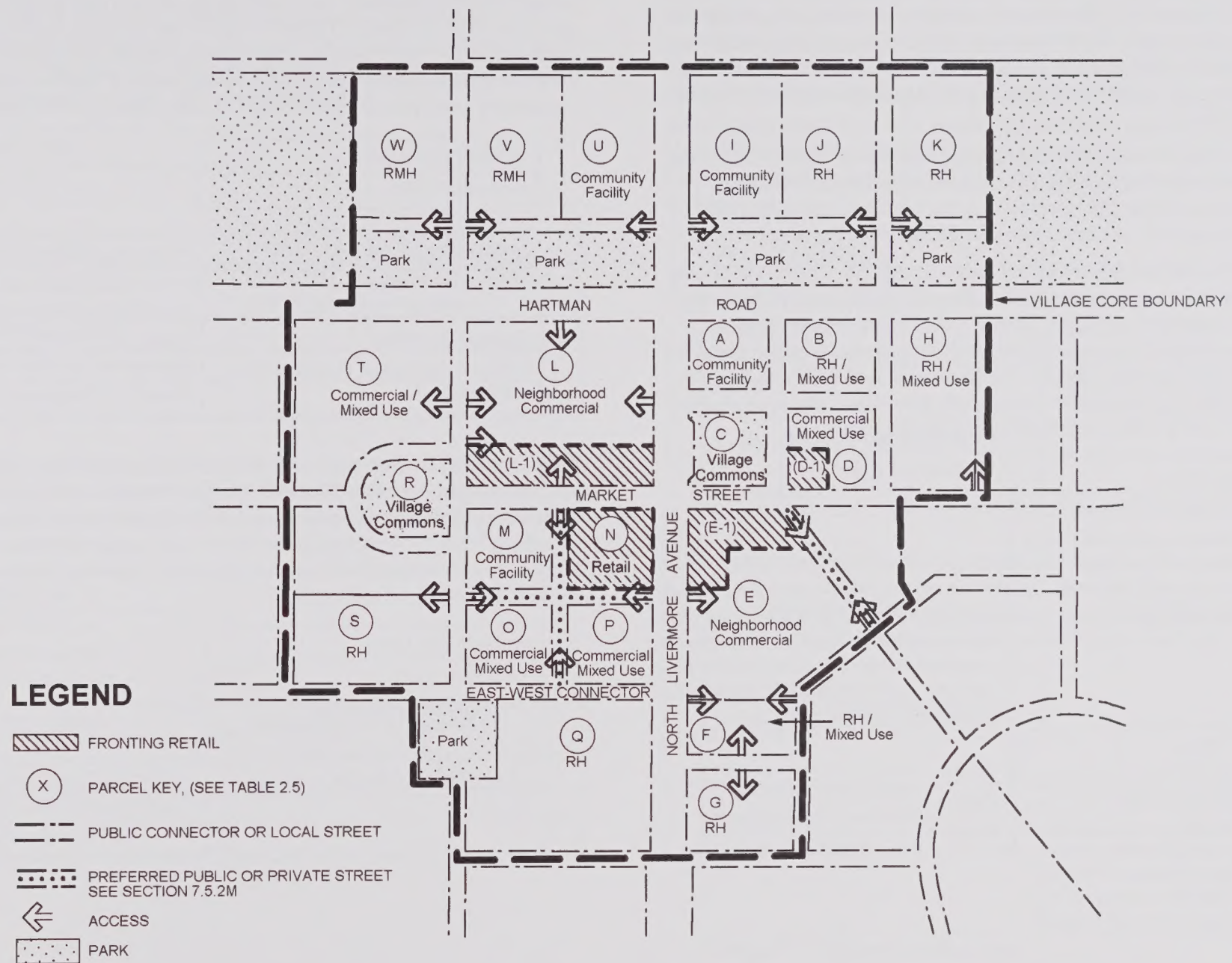


FIGURE 2.7: VILLAGE CORE LAND USE PLAN

VILLAGE CORE ZONING

The Village Core is designated VC - North Livermore Village Core District. The purpose of the VC District is to provide areas for uses that support the residential North Livermore Community. The Village Core parcels have general land use designations applied to them (e.g. Civic/Mixed Use), and the permitted use types are listed below for each parcel (see Figure 2.7: Village Core Land Use Plan, for specific parcel locations).

As described below, certain uses are permitted for each parcel. Other, conditional uses, are permitted only if certain specific use and/or building performance standards have been satisfied. The specific uses that are permitted within each general land use designation are listed below in Village Core Permitted Uses.

Community Facilities/Civic/Mixed Use (Parcels A and M). These two parcels are designated primarily for civic uses to include some of the services necessary to support a new community of 12,500 homes. Parcel A has frontage onto the Village Commons, North Livermore Avenue, and Hartman Road, and is therefore located in a visible and strategic location. Parcel M is an important site for civic uses due to its frontage on the Market Street, and a post office, library or similar use would be desirable to anchor the western end of the street.

PERMITTED USES
Community Facilities/Civic uses
Commercial Office (second story only)

CONDITIONAL USES	PERFORMANCE STANDARD
Retail	At least 2% of the Core Development Area has been developed or set aside for civic use, and a fire station site has been identified in the Village Core.
Commercial Office (ground floor)	Same
Residential (second story)	Same
Community Facilities/ Institutional	Same

RH/Mixed Use (Parcels B, F, and H). Parcel B is located facing the northeast corner of the Village Commons. The preferred land use scenario for these parcels is high density residential, with buildings facing and accessed from the surrounding public streets. Parcel F is also a swing site for commercial use expansion if a development plan for Parcel E requires greater land area. While Parcel H is designated for residential development, it may be developed with commercial uses, particularly if Parcel D uses require greater land area.

PERMITTED USES
Residential (RH)

CONDITIONAL USES	PERFORMANCE STANDARD
Community Commercial	80% of the Retail Area (D-1, E-1, L-1, and N) is built and occupied
Commercial Office	Same
Village Core Support Commercial and Service	Same

Park/Open Space (Parcels C and R). Parcel C is the Village Commons, the main ceremonial open space for the North Livermore Community. A transit staging area shall be developed along the North Livermore Avenue frontage of the Commons. Parcel R will physically and visually anchor the western end of Market Street. This park will also help to facilitate greater development interest in the surrounding Parcels M and T.

PERMITTED USES
Park/Open Space
Transit staging area/shelter

CONDITIONAL USES	PERFORMANCE STANDARD
None	—

Commercial Office/Mixed Use (Parcels D, O and P). Parcel D also fronts onto the Village Commons, and therefore is important for commercial and urban design reasons. Uses on this parcel might include primarily professional office, however, a small retail establishment on the southwest corner is desirable. Parcels O and P may contain the same uses that line Market Street, or have greater concentrations of commercial uses and/or residential units.

PERMITTED USES
Commercial Office

CONDITIONAL USES	PERFORMANCE STANDARD
Retail	80% of the Retail Area (D-1, E-1, L-1, and N) is built and occupied
Residential (RH and RMH)	—
Community Facilities/ Institutional	—
Community Facilities/Civic	—

Commercial Office/Mixed Use (Parcel T). Parcel T could have a mix of commercial, institutional, civic, or higher density residential uses and act as a transition between the lower density residential units to the west and the Village Core.

PERMITTED USES
Commercial Office
Residential (RH and RMH)

CONDITIONAL USES	PERFORMANCE STANDARD
Retail	80% of the Retail Area (D-1, E-1, L-1, and N) is built and occupied
Community Facilities/ Institutional	—
Community Facilities/Civic	—

Village Core Commercial (Parcels E and L). Parcels E and L are sized to allow for traditional shopping centers that include grocery, drug, and other similar types of large uses. Permitted uses within parcels E and L are intended to be large scale retail uses that are less appropriate for the pedestrian oriented areas adjacent to North Livermore Avenue and Market Street. The precise position and location of the major anchors within these sites will be determined during preparation of site development plans. However, smaller in-line retail shops shall front directly onto Market Street and North Livermore Avenue within areas E-1 and L-1.

Commercial parcels and street fronting retail shall be planned and developed at the same time.

PERMITTED USES
Village Core Commercial

CONDITIONAL USES	PERFORMANCE STANDARD
Retail	80% of the street fronting retail area (D-1, E-1, L-1, and N) is built and occupied
Community Facilities/ Institutional	—
Village Core Support Commercial and Service	—

Community Facilities/Institutional/Mixed Use (Parcels I and U). Parcels I and U front onto North Livermore Avenue, just north of the east/west oriented community park. These sites are well suited for religious facilities, private schools or day care establishments that serve the community at large.

PERMITTED USES
Community Facilities/ Institutional

CONDITIONAL USES	PERFORMANCE STANDARD
Residential (RH and RMH)	—
Commercial Office	75% of the projected market absorption of non-residential uses for the Village Core south of Hartman Road is approved, under construction or built.
Village Core Support Commercial and Service	Same

RH - Residential High Density (Parcels G, J, K, Q and S). Parcels J and K front onto the community park, and are desirable sites for high density residential uses. Parcels G and Q act as the transition from medium density housing to high density housing at the southern end of the Village Core. Parcel S is located adjacent to the east/west connector street that will carry higher volumes of traffic.

PERMITTED USES
Residential (RH)

CONDITIONAL USES	PERFORMANCE STANDARD
Residential (RMH)	—
Community Facilities/ Institutional	—

Residential Medium Density (Parcels V and W). Parcels V and W front onto the community park to the northwest of the Village Core, and provide a transition from park uses to the institutional and commercial uses of the Village Core.

PERMITTED USES
Residential (RMH)

CONDITIONAL USES	PERFORMANCE STANDARD
Residential RH	—
Community Facilities/ Institutional	—

Retail (Areas D-1, E-1, L-1 and Parcel N). Areas D-1, E-1, L-1 and Parcel N front onto Market Street and North Livermore Avenue and form the retail core of the Village Core area. Smaller in-line retail shops shall front directly onto Market Street and North Livermore Avenue. Two story buildings are encouraged. The most intensive retail uses within the Core Area are permitted in this area to create a pedestrian oriented retail area.

PERMITTED USES
Retail
Commercial Office (second story)
Community Facilities/ Institutional (second story)

CONDITIONAL USES	PERFORMANCE STANDARD
Residential (second story)	—
Community Facilities/ Institutional	—
Commercial Office (first story)	—

VILLAGE CORE PERMITTED USES

The following lists indicate specific uses permitted within the Village Core area for each general land use designation.

Uses shown as *Permitted* are acceptable within the general land use categories. They are uses that, when developed in accordance with this Plan, will not require special conditions in order to avoid negative impacts.

The Zoning Administrator may also permit similar uses of the same general character as those listed as Permitted below.

Community Facilities/Civic. The following uses are permitted subject to approval of any prerequisite permits and conformance with all applicable regulations set forth in this Specific Plan, and in Chapters 20.00 and 21.00 and elsewhere in the City of Livermore Zoning Ordinance.

- Fire Station
- Police sub-station
- Post office
- Library
- Community center
- Other government and quasi-government offices and facilities

Park/Open Space. The following uses are permitted subject to approval of any prerequisite permits and conformance with all applicable regulations set forth in this Specific Plan, and in Chapters 20.00 and 21.00 and elsewhere in the City of Livermore Zoning Ordinance.

- Landscaped open space
- Transit stop/shelter/staging area along North Livermore Avenue.

Commercial Office. The following uses are permitted subject to approval of any prerequisite permits and conformance with all applicable regulations set forth in this Specific Plan, and in Chapters 20.00 and 21.00 and elsewhere in the City of Livermore Zoning Ordinance.

Commercial office uses including:

- Business / Financial
- Dental
- Medical
- Optical
- Professional
- Counseling

Village Core Commercial. The following uses are permitted subject to approval of any prerequisite permits and conformance with all applicable regulations set forth in this Specific Plan, and in Chapters 20.00 and 21.00 and elsewhere in the City of Livermore Zoning Ordinance.

- Food stores and markets
- Drug stores
- Bookstores
- Day care center
- Copy center
- Financial institutions such as banks and savings and loans
- Hardware stores
- Liquor stores
- Office supply
- Paint, glass, and wallpaper stores
- Sporting goods
- Stationary stores
- Toy stores

Community Facilities/Institutional. The following uses are permitted subject to approval of any prerequisite permits and conformance with all applicable regulations set forth in this Specific Plan, and in Chapters 20.00 and 21.00 and elsewhere in the City of Livermore Zoning Ordinance.

- Religious facility
- Private School
- Day care center (any size)
- Swim center or other privately maintained sports facility
- Athletic club
- Transit facility

RH-Residential High. The following uses are permitted subject to approval of any prerequisite permits and conformance with all applicable regulations set forth in this Specific Plan, and in Chapters 20.00 and 21.00 and elsewhere in the City of Livermore Zoning Ordinance.

- High density residential

RM - Residential Medium Density. The following uses are permitted subject to approval of any prerequisite permits and conformance with all applicable regulations set forth in this Specific Plan, and in Chapters 20.00 and 21.00 and elsewhere in the City of Livermore Zoning Ordinance.

- Medium density residential

Retail. The following uses are permitted subject to approval of any prerequisite permits and conformance with all applicable regulations set forth in this Specific Plan, and in Chapters 20.00 and 21.00 and elsewhere in the City of Livermore Zoning Ordinance.

- Art galleries/supply stores
- Bakery
- Bicycle shops
- Bookstores
- Clothing, shoe and accessory stores
- Coffee shops
- Computer stores
- Copying
- Delicatessen store

- Drugstore
- Financial institution such as banks and savings and loan
- Florist and plant shops
- Hardware store
- Ice cream shops
- Jewelry
- Laundries and Dry cleaning
- Liquor store
- Locksmiths
- Microbrewery
- Office supply
- Outdoor cafe
- Paint, glass, and wallpaper stores
- Party supplies
- Photographic studios
- Photographic supply stores/cameras
- Picture framing shops
- Recorded music stores
- Restaurants (excluding fast-food and drive-through)
- Shoe repair
- Specialty food stores (excluding supermarkets, including: wine, beer, cheese, candy, meat, poultry, health food, gourmet)
- Specialty Goods, including: cooking supplies, housewares, linens, curtain/window, china/glassware, household accessories
- Sporting goods
- Stationary stores
- Toy stores
- Video stores, sales and rentals
- Watch and clock repair shops

Village Core Support Commercial and Service. No permitted Uses. Uses permitted with a Conditional Use Permit:

- Automobile service station
- Automobile repair
- Garden center and nursery
- Hardware Store
- Hotel or motel
- Mortuary
- Recycling Center
- Skating rink
- Athletic Club
- Fast-food restaurants
- Drive-through facilities
- Catering

Support Commercial and Service. The following uses are permitted subject to approval of any prerequisite permits and conformance with all applicable regulations set forth in this Specific Plan, and in Chapters 20.00 and 21.00 and elsewhere in the City of Livermore Zoning Ordinance:

- Auto sales with accessory auto service
- Open field athletic facilities
- Garden center and nursery
- Hardware store

Uses permitted with a Conditional Use Permit:

- Automobile service station
- Automobile repair
- Hotel or motel
- Mortuary
- Recycling Center
- Skating rink
- Athletic Club
- Fast-food restaurants
- Drive-through facilities
- Catering

2.9 EXISTING USES

Policy 2.9.1 Livermore-Pleasanton Rod & Gun Club. The Rod & Gun Club (a semi-private shooting range), may continue to operate in its current location directly north of the Springtown area near Dagnino Road.

- a) The eastern portion of the present Gun Club site shall be designated as Resource Management, and shall function as part of a transition area/buffer between the Urban Area (Zone A) and the Rural Management Area (Zone B) to the north.

Policy 2.9.2 Livermore-Pleasanton Rod & Gun Club Buffers. New development within the Plan Area adjacent to the Rod & Gun Club shall be responsible for mitigating any potential land use conflicts that may arise with this existing use.

- a) Those proposing development adjacent to the Livermore-Pleasanton Rod & Gun Club property shall install a fifteen (15) foot high earthen berm, topped by an eight-foot chain-link fence, on that portion of the property proposed for development that is adjacent to the boundary of the Rod & Gun Club property.
- b) Permanent signs posted on the fence shall indicate that the adjacent property is used by the Rod & Gun Club, and that firearms may be in use on that property at any time.
- c) New development within one-half mile of the boundary of the Livermore-Pleasanton Rod & Gun Club shall be required to provide sufficient insulation and other design features in all proposed structures to reduce the noise associated with the sound of gunfire from the Rod & Gun Club to an acceptable level of 45 dBA Ldn interior noise.
- d) All developers and landowners of property within one-half mile of the Livermore-Pleasanton Rod & Gun Club shall provide disclosure statements to prospective purchasers of the potential for noise from Rod & Gun Club activities, such as sport shooting and target practice, to affect their property.
 - i. Developers and landowners shall provide the City and/or County, as applicable, with written documentation of their disclosure to all potential and actual purchasers.
 - ii. Developers and landowners shall also execute and record a noise easement for the benefit of the Rod & Gun Club as a condition of approval of any final subdivision or parcel map. The easement shall provide that nuisance civil or criminal liability actions against the

operator or users of the Gun Club for excessive noise pollution are prohibited, so long as the Gun Club is operating in compliance with the laws, ordinances and regulations established at the time the facility was constructed or last permitted.

Policy 2.9.3 FCC Buffers and Protections. A buffer and land use controls shall be required to protect the mission of the existing FCC monitoring station.

- a) No overhead conductors or structures of any kind shall be permitted within 750 feet of the center of the direction finder antennas. Land within this zone is shown on the Land Use Plan as transferred to the FCC as part of a land-swap, which will provide this clearance entirely within FCC property.
- b) Any structures located within a zone of approximately 1,250 feet from the center of the Direction Finder antenna array shall be limited to a maximum of thirty-five feet (35') in height, and shall be in accordance with restrictions regarding electrical conducting materials. The nature and manner of accommodating these requirements shall be established in consultation with the FCC. Such restriction may, for example, require the use of non-conducting downspouts and wooden or fiberglass street light poles.

EXISTING PARCELS IN THE ZONE C/I-580 HILLS

Policy 2.9.4 Subdivision of Parcels. Subdivision of parcels that as of December 31, 1999 include a portion within Zone C shall be subject to conservation easements and the following provisions:

- a) Existing homes within the Zone C/I-580 Hills may remain as a continuing, non-conforming use.
- b) Existing residences may be expanded up to 50% of the existing floor area.
- c) A single new residential unit, up to 2,000 square feet in size shall be allowed on each existing parcel located entirely within the Zone C/I-580 Hills boundary. Any such units shall be located on portions of the site with existing slopes less than 15%.
- d) New units on parcels that include portions within Zones A and C shall be located solely in the Zone A (Urban Area) portion.
- e) All barns or other accessory structures shall be limited to 25 feet in height.
- f) The Zone A open space fee obligation shall be reduced by the value of any conservation easement recorded on Zone C land.

CHAPTER THREE:

TRANSPORTATION & CIRCULATION

INTRODUCTION

This chapter establishes policies for the transportation and circulation systems for North Livermore. These systems include the regional highway system (I-580) serving the Plan Area, local interchange connections to this regional highway system, major City of Livermore arterial roadways connecting the Plan Area to the City and the surrounding region, local City of Livermore intersections, on-site roadways, pedestrian circulation and transit.

Provisions for local roadway layouts and the design of Plan Area roadway cross-sections are presented in Chapter Seven: Community Design. Policies pertaining to pedestrian, bicycle and equestrian trails are also presented in Chapter Five: Community Services and Facilities.

Policies pertaining to transportation systems and roadway improvements outside of the Urban Area (outside of Zone A), but within the Plan Area are presented in Specific Plan Volume I: Rural Area.

3.1 TRANSPORTATION GOALS

- A. To create and maintain a balanced, multi-modal transportation system that provides for the efficient and safe movement of people, goods, and services.**
- B. To minimize traffic congestion in North Livermore by discouraging regional through traffic.**
- C. To provide a complete network of transportation improvements including freeway interchanges, arterial roads, connector roads, and local streets that link destination points within the community.**
- D. To locate arterial roads, wherever possible, adjacent to open space, public facilities, and multi-family residential and commercial uses to minimize the need for sound walls.**
- E. To minimize street widths and orient homes fronting on low volume connector streets to enhance neighborhood livability and reduce grading.**
- F. To provide a transit facility that can accommodate feeder bus service between the existing city, future BART stations and other Tri-Valley employment centers and the Village Core to facilitate commuting and other trips from North Livermore.**
- G. To provide a comprehensive network of bicycle and pedestrian paths that connect major points within the Plan Area.**

3.2 BACKGROUND

PROJECTED TRAFFIC GENERATION

Table 3.1 details the average daily and peak hour trips that will be generated by buildout within the Plan Area. While approximately 30% of these trips will stay on-site (trips to school, the on-site commercial/office uses, home-to-home trips, etc.), approximately 70% of these trips will travel off-site and use the surrounding regional and local transportation network. In total, the Plan will produce about 132,847 daily trips. During the a.m. peak hour, approximately 8,866 one-way trips would be generated, while the p.m. peak hour would produce about 13,378 one-way trips.

LOCAL TRANSPORTATION IMPROVEMENT PLANS

The City of Livermore adopted a Traffic Impact Fee (TIF) program to finance roadway improvements in Livermore needed to accommodate projected growth. The City collects fees from all new development and these fees are allocated to local street and interchange projects on a priority basis established by the City Council as identified in the City's Capital Improvement Program budget. The timing of a particular transportation improvement is dependent upon the availability of funding, the pace of development within the City and the priority placed on the improvement with respect to other needed transportation improvement projects.

According to the 2000 traffic impact fee project list update, there are a number of new street projects, freeway interchange and grade separation projects, and new traffic signals planned throughout the City that are anticipated to be funded or partially funded through the TIF program. The estimated cost for the TIF allocation towards these transportation improvements is on the order of \$180 million.

REGIONAL TRANSPORTATION IMPROVEMENT PLANS

In 1998, the Tri-Valley Transportation Council (TVTC) established a Tri-Valley Transportation Development Fee, and identified a total of 11 transportation/transit improvement projects from a list of "high priorities" to be funded through these fees. Subsequently, each member agency of the TVTC (including the City of Livermore) adopted an ordinance or resolution authorizing collection of development fees from within its jurisdiction, and fee collection began in September of 1998. It is estimated that this regional traffic fee program will collect approximately \$70 million over the next 15 years from new development

throughout the Tri-Valley. However, it is recognized that these fees will fund only a portion of the costs to implement the 11 identified projects. Additional funding from state and federal funds, local traffic impact fees, new regional gas taxes, half-cent sales tax programs, developer contributions, and other local or regional funds will be needed to fully implement the TVTC's "high priority" transportation/transit improvement projects.

Table 3.1 North Livermore Daily and Peak Hour Trip Generation

Land Use	Units/ Sq.Ft.	Average Daily Trips	AM Peak	PM Peak
Residential				
RVL-Very Low	280	2,680	210	283
RL-Low	1,930	18,470	1,448	1,949
RM-Medium	5,300	50,721	3,975	5,353
RMH-Medium High	2,690	15,763	1,184	1,452
RMH- Core	80	469	35	43
RH-High	1,480	8,673	651	799
RH- Core	740	4,366	325	399
Subtotal	12,500	101,142	7,828	10,278
Village Core				
Retail	287,400	14,370	287	1,293
Office and Service	89,800	980	140	134
Civic and Institutional	98,800	1,087	154	147
Subtotal	476,000	16,445	581	1,574
Commercial				
CS- Commercial	218,000	15,260	457	1,526
Subtotal	218,000	15,260	457	1,526
Total		132,847	8,866	13,378

3.3 REGIONAL TRANSPORTATION IMPROVEMENTS

REGIONAL TRANSPORTATION SYSTEM

Interstate 580 is the major regional transportation facility for the North Livermore area. From Pleasanton (west of the Plan Area) to I-205 (east of the Plan Area), I-580 has four through lanes in each direction. As of 2000, construction is currently underway in the Pleasanton area that will add additional eastbound travel lanes between the I-580/I-680 interchange and the Hacienda Boulevard interchange.

As of 2000, I-580 is operating at very poor levels of service (LOS F) in the mornings in the westbound direction, and LOS E conditions during the afternoon commute period in the eastbound direction. Traffic projections indicate that traffic congestion on I-580 will get worse during both peak hour periods on the entire section of this roadway from I-680 to the Altamont Pass without roadway improvements and/or improved transit ridership, with or without the Plan.

NEEDED REGIONAL IMPROVEMENTS

Several studies conducted in the past few years have analyzed traffic congestion on the I-580 corridor in the vicinity of the Plan Area, including the Tri-Valley Transportation Council's Tri-Valley Transportation Plan/Action Plan for Routes of Regional Significance and the 1999 TVTC Strategic Expenditure Plan. The Strategic Expenditure Plan identifies the construction of High Occupancy Vehicle (HOV) lanes on I-580 west of North Livermore Avenue as a "priority project". The Strategic Expenditure Plan includes a commitment of \$8 million dollars from the regional development fees anticipated to accrue over the next 15 years to fund HOV lanes on I-580. However, the anticipated full costs for HOV lanes on I-580 is projected to be approximately \$40 million, and additional funding sources such as federal or state funds, Measure B funds, regional gas tax revenues, etc. are necessary.

Additionally, the construction of Dublin Boulevard connecting between the City of Dublin and the City of Livermore is identified as a regional transportation improvement that would act as a freeway alternative for the more localized traffic between Livermore and Dublin, and would divert significant levels of traffic off of I-580 thereby relieving congestion.

Even with the improvement of HOV lanes on I-580 and the extension of Dublin Boulevard, traffic levels on I-580 in the vicinity of North Livermore are projected to exceed LOS E conditions during peak commute periods without improved transit opportunities and/or increased transit ridership. Transit is more fully discussed in following sections of this Chapter.

POLICIES FOR REGIONAL IMPROVEMENTS

This Plan does not propose to require future development within the Plan Area to solely provide either HOV lanes on I-580, additional travel lanes on I-580, or the Dublin Boulevard extension since it only contributes a portion of the traffic. However, fair-share funding for HOV lanes and the Dublin Boulevard extension are required pursuant to the following policies:

Policy 3.3.1 Regional Transportation Improvement Fees. All new development within the Plan Area shall pay Tri-Valley Transportation Council (TVTC) Tri-Valley Transportation Development (TVTD) fees as adopted by the City of Livermore. TVTD fees paid by new development shall be used to pay for a portion of future regional transportation improvements, potentially including construction of HOV lanes on I-580.

Policy 3.3.2 Dublin Boulevard Extension. All new development within the Plan Area shall provide its fair share of the funding necessary for construction of the Dublin Boulevard/North Canyons Parkway extension from Doolan Road to Fallon Road. The Dublin Boulevard/North Canyons Parkway extension ultimately will be a six (6) lane road in order to accommodate anticipated traffic levels.

- a) It is anticipated that the City of Dublin will construct a 4-lane portion of the Dublin Boulevard extension from Doolan Road to Fallon Road. The City of Dublin has identified the construction of this road as part of its planned street system, to be financed through development fees.
- b) As part of its implementation strategy for North Livermore, the City of Livermore shall amend its Traffic Impact Fee Project List to include funding for the remaining 2-lane portion of this roadway from Doolan Road to Fallon Road. The Project shall pay applicable Traffic Impact Fees which may be used by the City toward construction of this improvement. Development within the plan area may be required to construct this roadway and then receive credits for the applicable TIF.
- c) Improvements to this road may be phased over time as funding becomes available.

3.4 CITY-WIDE TRANSPORTATION IMPROVEMENTS

I-580 INTERCHANGES

I-580 interchanges serving the Plan Area are located at Airway Boulevard, North Livermore Avenue, and First Street. A new interchange is planned to be located on I-580 at Isabel Avenue, between the Portola and Airway Boulevard interchanges. This new Isabel Parkway interchange is planned to connect SR 84 (Isabel Avenue) to I-580, and to serve local land uses both north and south of the freeway. As part of the new Isabel Avenue interchange, the existing Portola Avenue interchange will be removed and converted to an overcrossing only.

As part of the City's overall circulation system, the City's Traffic Impact Fee program anticipates implementation of future improvements at these interchanges, to be funded through Traffic Impact Fees assessed on all new development throughout the City, as well as other available regional, state and federal funding sources. Subsequent to adoption of this Specific Plan, the City Traffic Impact Fee program would be amended to include North Livermore. The following interchange improvements are anticipated to be constructed pursuant to the Traffic Impact Fee program in the Plan Area vicinity:

- **Airway Boulevard/I-580.** This upgraded interchange was completed in August 1999.
- **Isabel Route 84/I-580.** An interim, first-phase interchange improvement that provides for a 3-lane bridge over I-580, diamond off-ramps and loop on-ramps, a 2-lane extension of Portola Avenue to the North Canyons Parkway/ Isabel intersection and elimination of the Portola Avenue on- and off-ramp (Phase 1). Eventual improvements needed to accommodate projected cumulative traffic levels (including traffic from North Livermore) include a 6-lane bridge over I-580, diagonal on- and off-ramps and cloverleaf on-ramps that eliminate conflicting left turn movements.
- **North Livermore Avenue/I-580.** Standard partial cloverleaf interchange and 6 through lanes under the freeway bridge.
- **First Street/I-580.** Removal of current ramps, construction of a new bridge over I-580 and construction of new partial cloverleaf ramps.
- **Vasco Road/I-580.** Modified partial cloverleaf design with diamond on- and off-ramps south of I-580 and a cloverleaf design north of I-580.

POLICIES FOR INTERCHANGE IMPROVEMENTS

Based on traffic projections for the year 2020, these planned interchange improvements will be adequate to accommodate cumulative traffic levels, including traffic generated by North Livermore development, at acceptable levels of service (LOS E or better). The City of Livermore's local funding contribution towards these interchange improvements will come from Traffic Impact Fees assessed against all new development within the City. North Livermore will be responsible for paying all applicable City Traffic Impact Fees, thereby paying its fair share towards these interchange improvements, as required by the following policies:

Policy 3.4.1 Payment of City Traffic Impact Fees. All new development within the Urban Area shall pay applicable City of Livermore's Traffic Impact Fees. Alternatively, the cost of improvements listed on the City's TIF project list update that are constructed as part of the Plan Area's infrastructure improvements may receive a credit against Traffic Impact Fees.

- a) The Traffic Impact Fee program is subject to regular, necessary updates by the City of Livermore.
- b) Traffic Impact Fees paid by new development within North Livermore shall be used by the City, at the City's discretion, to provide funding for the construction of City-wide transportation improvements as identified in the City of Livermore's 2000 traffic impact fee project list update.
- c) The timing of reimbursement for the value of improvements constructed as a credit against Traffic Impact Fees shall be subject to TIF reimbursement rules and may be included in development agreements.

Policy 3.4.2 North Livermore Avenue Interchange Improvements. New development within North Livermore's Urban Area shall be responsible for constructing the North Livermore Avenue interchange improvements consistent with the design indicated in the 2000 Project Study Report, and the costs shall be credited against required Traffic Impact Fees.

- a) Construction of this interchange improvement may be phased over time, provided that necessary improvements are constructed so as to maintain acceptable LOS E conditions.

- b) North Livermore development shall be responsible for the cost of all necessary engineering and environmental studies associated with these interchange improvements.

Policy 3.4.3 Isabel Route 84/I-580 Interchange. New development within the North Livermore Urban Area shall pay City Traffic Impact Fees which may be used by the City toward construction of the full new interchange at I-580/Isabel Parkway. The costs of construction of any portion of this interchange included in the Traffic Impact Fee Update that may be implemented by Plan Area developers shall be credited against required Traffic Impact Fees.

- a) The first phase improvements for this interchange provide for an interim, 3-lane bridge improvement and related ramp work. This first phase improvement has been fully funded through a combination of federal funds, City TIF fees and a reimbursement agreement against future TIF fees for private developer funding.
- b) As part of the implementation strategy for North Livermore, the City shall amend its Traffic Impact Fee program to include \$15 million toward completion of the full interchange. The City of Livermore may allocate any or all of the Traffic Impact Fees generated within the Urban Area toward this improvement.
- c) Additional funding necessary to construct the full interchange design should be from TVTC fees, the new Measure B Expenditure Plan, and/or state or federal funds.
- d) Construction of this interchange may be phased over time as funding is available.

CITY-WIDE ARTERIAL ROADWAYS

Another major component of the City's planned circulation system is the construction of Isabel Parkway, linking Vallecitos Road to a new interchange at I-580, and construction of this road north of I-580 through the Cayetano Corporate Campus and on into North Livermore. This new roadway will be designated as the new alignment of State Route 84, providing a bypass from the current First Street alignment which passes through downtown Livermore.

The City's current Traffic Impact Fee program provides funding for a first phase of Isabel Parkway to be constructed as a 2-lane arterial roadway from Vallecitos Road north, across I-580 to North Canyons Parkway. This first phase improvement is under construction south of I-580. Traffic projections for the year 2020 indicate that this roadway will need to be widened to a 6-lane roadway south of I-580 to Vineyard, and a 4-lane road from Vineyard to I-680 in order to accommodate cumulative traffic levels, including traffic generated from North Livermore.

North Livermore Arterials - North of I-580. The circulation system for the Plan Area includes construction of a new City arterial roadway that would be the extension of Isabel Parkway from an intersection approximately 800 feet north of North Canyons Parkway within the Cayetano Corporate Campus (the segment from I-580 through the Cayetano Corporate Campus to this point would be constructed by that project), through the Plan Area to its proposed terminus at the new Las Colinas Avenue near the eastern edge of the Plan Area (see Figure 3.1). Within the Plan Area this road is identified as Hartman Road. The road cross-section for Hartman Road would be as follows:

- A 6-lane arterial from North Canyons Parkway to Calle Las Positas,
- A 4-lane arterial within a 6-lane right-of-way from Calle Las Positas eastward to North Livermore Avenue;
- Then a 2-lane arterial from North Livermore Avenue to its terminus at Las Colinas Avenue. The termination of Isabel Parkway (Hartman Road) within the Plan Area is a departure from the General Plan alignment of this roadway adopted in 1993 as part of the NLGPA, which calls for its extension eastward to Vasco Road. Isabel Parkway is not proposed to be extended to Vasco Road because such an extension would provide enhanced opportunity for cut-

through traffic to use this route as a bypass between Vasco Road and points west along I-580. An increase of cut-through traffic would significantly increase traffic volumes and associated noise on internal roadways. Cut-through traffic would also increase the number of lanes required on this through route, thereby changing the character of the proposed streetscape environment and would result in substantial traffic congestion at future planned intersections at Isabel/North Livermore, Isabel/North Canyons and the Isabel interchange at I-580 unless additional improvements were provided at these intersections.

Potential cut-through routes as exist today are circuitous and tend to discourage cut-through traffic movements. Planned improvements to the I-580 interchanges at Vasco Road, First Street and North Livermore Avenue pursuant to the City TIF program, along with the potential addition of HOV lanes on I-580 west of Vasco Road would improve traffic flows on I-580.

North Livermore Arterials - South of I-580. Based on traffic projections for the year 2020, the planned widening of Isabel Parkway to a 6-lane expressway from I-580 south to Vineyard Road will be adequate to accommodate cumulative traffic levels on this section of the road, including traffic generated by North Livermore development, at acceptable levels of service (LOS E or better). The City of Livermore's local contribution of funding for this regional-serving expressway improvement will be derived from local Traffic Impact Fees. North Livermore will be responsible for paying all applicable City TIF fees, thereby paying its fair share towards this City-wide and regionally-serving arterial roadway.

POLICIES FOR CITY ROADWAYS

The following policies specifically describe North Livermore's obligations towards Isabel Parkway improvements:

Policy 3.4.4 Isabel Parkway/Hartman Road Extension North of I-580. The North Livermore circulation system shall include the construction of the northerly portion of Isabel Parkway/Hartman Road through the Plan Area.

- a) Isabel Parkway/Hartman Road shall be constructed as a 6-lane arterial from the Las Positas College entrance to Calle Las Positas, a 4-lane arterial (within a 6-lane right-of-way) from Calle Las Positas to Murray Ranch Road, a 4-lane arterial from Murray Ranch Road to North Livermore Avenue and as a 2-lane arterial (within a 4-lane right-of-way) from North Livermore Avenue to Las Colinas Avenue.
- b) As part of the Cayetano Corporate Campus project, the alignment of Isabel Parkway has been shifted slightly to the west from the alignment adopted in the NLGPA. The circulation plan shall connect Isabel Parkway/Hartman Road to this new alignment (at a point approximately 800 feet north of North Canyons Parkway), and extending Isabel Parkway into the Plan Area.

Policy 3.4.5 Termination of Isabel Parkway. The extension of Isabel Parkway/Hartman Road from I-580 through the Plan Area shall not result in a through connection eastward to Vasco Road. The terminus of this roadway shall be internal to the Plan Area, thereby discouraging through traffic from Vasco Road through the Plan Area and on to I-580.

Policy 3.4.6 Isabel Parkway (SR 84) Extension South of I-580. New development within the North Livermore Urban Area shall pay City Traffic Impact Fees. The City may use these fees (or a portion thereof) toward construction of Isabel Parkway (SR 84) as a 6-lane arterial roadway from I-580 to Vineyard, an a 4-lane arterial from Vineyard to Vallecitos Road.

- a) The first phase improvements for the Isabel (SR84) expressway provide for a 2-lane roadway from I-580 to Vallecitos Road. This first phase improvement has been fully funded, is under construction and scheduled to be operational in year 2001.
- b) As an implementation strategy for North Livermore, the City shall amend its Traffic Impact Fee program to include approximately \$15 million toward widening of Isabel Parkway from I-580 to Vallecitos Road. The City of Livermore may allocate any or all of the Traffic Impact Fees generated within the Urban Area toward this improvement.

- c) Additional funding necessary to construct the full 6-lane arterial roadway from I-580 to Vineyard and 4 lanes from Vineyard to I-680 must be derived from other funding sources such as TVTC fees, the new Measure B Expenditure Plan, or state or federal funds.
 - i. All new development within North Livermore shall pay Tri-Valley Transportation Development Fees as adopted by the City of Livermore.
 - ii. Tri-Valley Transportation Development Fees paid by new development in North Livermore may be used by the Tri-Valley Transportation Council to pay for the widening of Vallecitos Road to 4-lanes from Vineyard to I-680.
- d) Construction of this roadway may be phased over time, provided that necessary improvements are constructed so as to maintain acceptable LOS E conditions.

Policy 3.4.7 Waterman Drive Connection to Springtown. Waterman Drive shall be constructed from Las Colinas Avenue to Springtown Boulevard, along the north edge/levee of Arroyo Las Positas (see Figure 3.1).

LOCAL INTERSECTION IMPROVEMENTS

The City's currently adopted TIF program also provides for the funding of local intersection improvements at the following locations within the Plan Area's vicinity as needed to accommodate cumulative traffic levels:

- **Isabel Parkway.** South of I-580, intersection improvements are anticipated at Airway Boulevard, Jack London Boulevard, Stanley Boulevard, Concannon Road and Vineyard Road.
- **North Canyons Parkway.** Intersection improvements are anticipated at Airway Boulevard, Collier Canyon Road and the Isabel Parkway Extension.
- **Portola Avenue.** South of I-580 Portola Avenue is to be widened to include intersection improvements at at North Livermore Avenue (completed as of February 2000) and North Murietta Boulevard.
- **Las Positas Road.** Intersection improvements are anticipated at North Livermore Avenue, Las Colinas Road and First Street.
- **Vasco Road.** Intersection improvements are anticipated at Northfront Road and Scenic Avenue.

POLICIES FOR LOCAL INTERSECTION IMPROVEMENTS

As previously indicated, all new urban development within North Livermore will be required to pay applicable Traffic Impact Fees, or to provide for the construction of certain TIF program traffic improvements as a credit against such fees. The City, at its discretion, may utilize TIF fees generated by new development within North Livermore to implement these local intersection improvements.

Traffic generated by new North Livermore development is also projected to significantly effect certain off-site local intersections such that acceptable City LOS thresholds would be exceeded, even after identified TIF program improvements have been made. Because these intersection impacts are directly attributable to traffic generated by new development within North Livermore, the funding for these intersections will be the responsibility of new development within the Plan Area, as described in the following policy:

Policy 3.4.8 Off-Site Intersection Improvements. In addition to payment of City Traffic Impact Fees, new urban development within the Plan Area shall be responsible for funding and/or constructing the following additional off-site intersection improvements:

- a) At North Canyons/Airway, an additional (third) westbound left turn lane on North Canyons onto Airway shall be provided by widening North Canyons Parkway.
- b) At Isabel/Stamley, an additional (third) southbound left turn lane on Isabel onto Stamley shall be provided.
 - i. This improvement assumes that Isabel Parkway is improved as a 6-lane arterial from I-580 to Vineyard. If Isabel Parkway (SR 84) is not improved as a 6-lane expressway, this intersection improvement is not feasible and unacceptable LOS F conditions would result.
 - ii. Alternatively, a grade separated interchange may be needed at this intersection to minimize conflicting turning movements and provide for needed capacity. Under this scenario, North Livermore urban development would only be responsible for its share of the costs by payment of Traffic Impact Fees, assuming an amended Traffic Impact Fee Project List incorporates this grade separation.

3.5 ON-SITE CIRCULATION SYSTEM

ARTERIAL AND CONNECTOR ROADS

Certain major roadway improvements that have been included in the City Traffic Impact Fee program will instead be constructed as part of the Plan Area's circulation system. As these roadways are necessary to serve new development within North Livermore, construction of these road improvements will be responsibility of new development within the Plan Area and no credit against local Traffic Impact Fees will be given. These roadway improvements, which are located within the Plan Area include:

- The construction of Calle Las Positas across the southern portion of the Plan Area, connecting eastward to the community of Springtown, with connections at existing Redwood Road and proposed Waterman Drive.
- Widening of North Livermore Avenue, and
- Installing a new traffic signal at the North Livermore Avenue/Calle Las Positas intersection.

The Plan Area's circulation system will also include funding and construction of an entire system of new City arterial and connector roads serving new development. This circulation system will be designed to accommodate internal projected traffic volumes at acceptable levels of service (mid-level of service D or better).

Arterial Roads. This new circulation system is primarily based on a grid pattern of new arterials that organize the roadway network and provide access into the Plan Area from I-580 to the south, and from the adjacent Tri-Valley Technology Park, the planned Cayetano Corporate Campus, and Las Positas College from the west. The arterial streets are located at the perimeter of larger development areas, and adjacent to open space and park uses wherever possible. These new arterial roadways, as shown in Figure 3.1 include:

- North Livermore Avenue will be the primary north-south arterial. North Livermore Avenue will be widened to a 6-lane arterial from the I-580 interchange to Calle Las Positas (the first east-west arterial), plus approximately 300 feet of transition north of Calle Las Positas. From the transition lanes north, North Livermore Avenue will be a 4-lane arterial through the Village Core to Hartman Road. From Hartman Road to May School Road, North Livermore will be a 2-lane arterial.

- Isabel Parkway/Hartman Road forms the major east-west arterial central to the Plan Area, terminating south of the proposed high school site. Hartman Road extension from Calle Las Positas to its intersection with Murray Ranch Road will be a 4-lane road within a 6-lane right-of-way to provide for potential additional widening if necessary in the future. From Murray Ranch Road Hartman Road will be a 4-lane arterial to North Livermore Avenue. East of North Livermore Avenue, Hartman Road will be a 2-lane arterial within a 4-lane right of-way to its terminus at Las Colinas Avenue. An arterial connection from the Plan Area to Vasco Road would not be provided.
- Murray Ranch Road forms the Plan Areas western-most arterial roadway, consisting of a 4-lane extension of Collier Canyon Road from northwest of the Las Positas College to its intersection with Isabel Parkway/Hartman Road.
- Las Colinas Avenue will be the easternmost north-south arterial. Beginning at the Las Colinas overpass at I-580, Las Colinas Avenue will be a 2-lane arterial north to Jensen Road, with the exception of a segment of this roadway adjacent to the new high school which will be 4-lanes in order to serve the high school's circulation needs.
- Calle Las Positas will be the southern arterial. On the west side of North Livermore Avenue, Calle Las Positas will be a 4-lane arterial, and on the east side of North Livermore Avenue to Las Colinas Avenue it will be a 2-lane arterial.
- Jensen Road will be the northern arterial. Starting from Hartman Road and heading northeast to North Livermore Avenue, Jensen Road will be a 4-lane arterial. East of North Livermore Avenue, Jensen will be a 2-lane arterial within a 4-lane right-of-way. Depending upon the design of internal circulation routes within the northeast quadrant of the Plan Area, Jensen Road may not be designed as a 4-way intersection at North Livermore, but instead may offset two neighborhood connectors on the east side of North Livermore Avenue to disperse through- traffic and deter cut-through traffic heading to Vasco.

Connector Roads. Two distinctly different connector roadway patterns will be developed in response to the two major types of terrain within the Plan Area. In hillside areas located in the southwest and southeast portions of the Plan Area where slopes are generally between 5% and 15%, connector roads are designed in a curvilinear pattern following the natural topography. This pattern reduces the need for extensive grading and appropriately serves the lower density housing in these areas.

In the flatter portions of the valley, connector streets create an interconnected grid pattern which provides easy orientation and supports the full range of residential and commercial uses of the Village Core. The grid of connector streets will be located and sized to allow homes to front on these streets and avoid the need for soundwalls wherever possible.

Connector roads that serve an important community access function, in addition to serving the adjacent residential areas include the following (see Figure 3.1):

- Redwood Road – Existing street connecting Springtown to Las Colinas Avenue.
- Waterman Drive – New connection between Springtown and Las Colinas Avenue, along the north side of Arroyo Las Positas.
- Raymond Road – Existing two lane roadway connecting to Las Colinas Avenue, north of the high school. Provides local connection to Springtown and Vasco Road.
- Dagnino Road – Existing two-lane roadway connecting Raymond Road to May School Road and Rural Areas.
- May School Road – Existing two-lane roadway, realigned to discourage through traffic between North Livermore Avenue and Dagnino Road. A local serving connection will provide access for rural area and existing residents.

POLICIES FOR ON-SITE ROADS

Policies which support and define this roadway system include the following:

Policy 3.5.1 Funding the On-Site Transportation Network Improvements.

North Livermore Urban Area development shall contribute its fair share towards the costs of all transportation network improvements necessary to support the new development.

- a) Sub-area improvements to the overall roadway/circulation system may be required as conditions of approval for individual development projects within the Urban Area.
- b) All development within the Urban Area shall be responsible for its proportionate share of roadway system improvements. This responsibility can be met by either paying development fees, special assessments, or constructing improvements to City specifications.

Policy 3.5.2 Urban Area Intersections - Level of Service. The Level of Service (LOS) at major Urban Area intersections shall not exceed a peak-hour volume-to-capacity ratio of 0.85 (i.e. mid- LOS D) for more than two hours of the average day.

Policy 3.5.3 Phasing Development to Maintain Traffic Levels of Service.

Phase new development to coincide with roadway improvements so that traffic volumes do not exceed mid-level of service “D” on major arterial segments within the Urban Area, or on rural roadways within the County portions of the Plan Area

- a) The City Engineer may require traffic impact studies for development projects proposed within the North Livermore Plan Area to determine compliance with City level of service standards.
- b) All 4-way traffic intersections on North Livermore Avenue south of Hartman Road shall be signalized.
- c) Other traffic signals shall be installed where traffic projections indicate the need, and where traffic signal warrants and other factors provide justification.

Policy 3.5.4 Internal Roadway System. The roadway network for North Livermore shall comply with Figure 3.1: Roadway Circulation, and the design standards presented in Chapter Seven: Community Design.

- a) Roadways shall be located to facilitate local circulation, but shall discourage regional through traffic.
- b) Isabel Parkway shall not be extended through the Plan Area as a regional route. Extensions of Isabel shall be sized to serve local area traffic only.
- c) Arterial Streets shall be located at the perimeter of large development areas, approximately one-mile apart.
 - i. To the extent possible, arterial streets shall be located adjacent to open space and park uses, and at the bottom of existing grade transitions (see Figure 3.1: Roadway Circulation).
 - ii. Arterial street rights of way shall include the entire adjacent landscape setback area (see Specific Plan, Chapter Seven: Community Design).
- d) A “fine-grained” network of connector streets shall be located to provide convenient access to all land use parcels (see Figure 3.1: Roadway Circulation). East/west connector streets shall generally provide through connections between and through land use areas, while north/south connector streets may be more discontinuous, terminating at parks, open space or neighborhood entries.
- e) All connectors other than those designated on Figure 3.1 shall be sized to carry less than 2,000 cars/day. Parallel streets shall be added, where needed, so as to achieve this standard.
- f) Multiple points of access to development areas are encouraged, thereby maximizing the number of streets which carry traffic and maximizing the distribution of traffic loads from each development area.
 - i. If, by providing multiple access points to a development area, a developer can lower traffic volumes on connector roads within the development area to less than 2,000 average daily trips, residences may be allowed to front onto these streets.
 - ii. A traffic report shall be submitted to the City Engineer demonstrating how the land plan and circulation plan for the development area can achieve streets with volumes of less than 2,000 average daily trips. Upon acceptance of such a report, residences may be designed to front onto these streets.

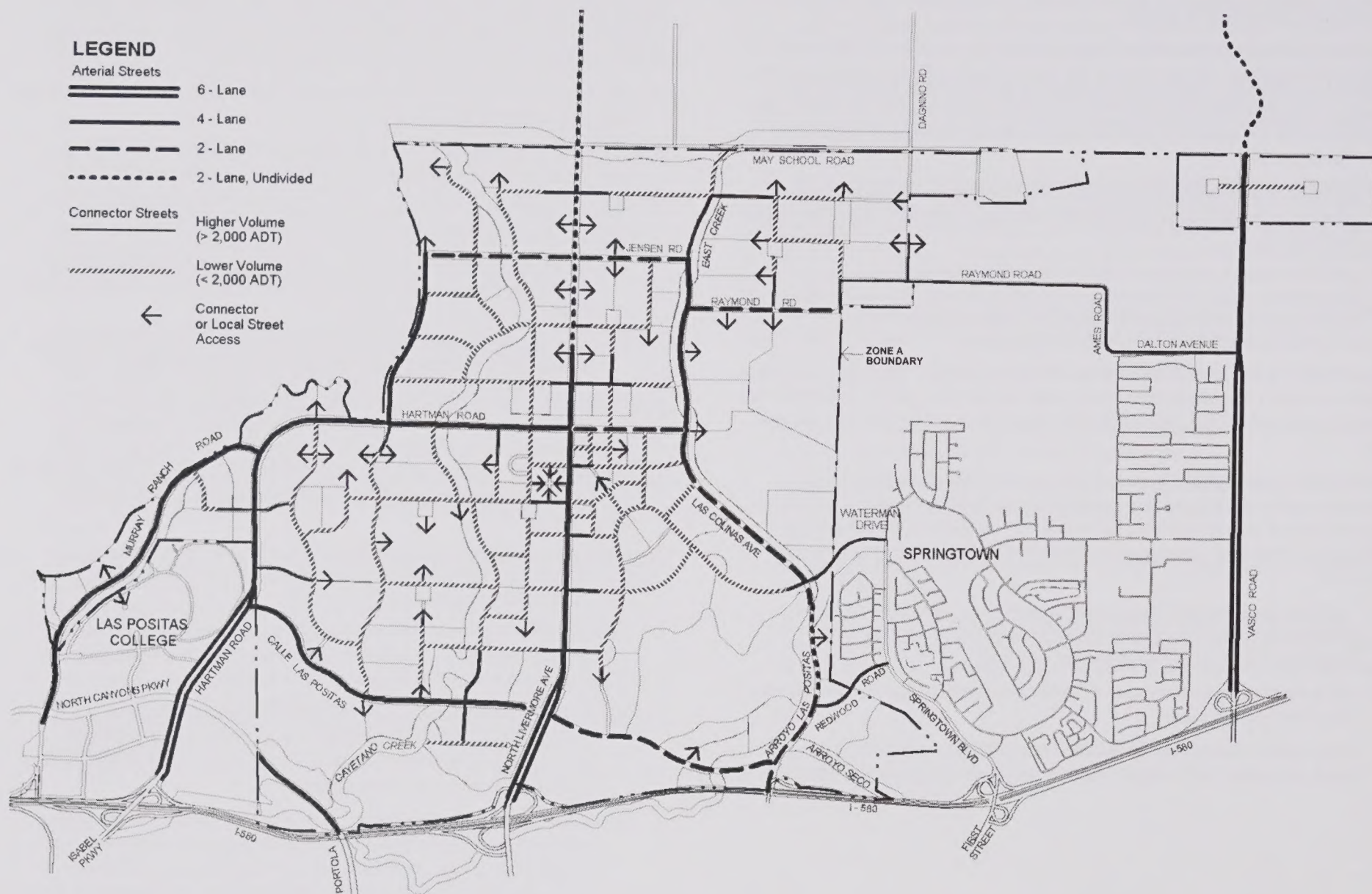


FIGURE 3.1: ROADWAY CIRCULATION

3.6 TRAILS

The Livermore Bicycle/Pedestrian Plan Update and Equestrian Trails Study, prepared by the City of Livermore in 1996, proposes a trails system connecting major activity centers throughout the City and with connections to regional trails. This Specific Plan implements the City's 1996 plan within the Plan Area. North of I-580, it proposes multi-use trails (Class I bike paths on a separated right-of-way for the exclusive use of bicycles and pedestrians) along all creek corridors and arterial streets, with eventual extensions to Los Vaqueros Reservoir and Brushy Peak.

An equestrian trail is proposed along Cayetano Creek, Arroyo Las Positas, and Hartman Road extending northward from the Isabel interchange. Equestrian trails are to be separated from bicycle and pedestrian facilities, where possible. Figure 3.2: Pedestrian & Bicycle Circulation illustrates the extensive multi-use trail system for hikers, bicyclists and equestrians that is proposed for North Livermore. The proposed trails system includes:

- Major north-south off-street trails along the Cayetano Creek and East Creek corridors and North Livermore Avenue;
- East-west connections traversing the community through the community park/Hartman Road, through the May School buffer, and along Calle Las Positas;
- Bike lanes, routes and sidewalks along connector streets to all schools and parks;
- Sidewalks along all connector and local streets;
- Trails in adjacent public open space and connections within neighborhoods to nearby open space and trail corridors.

This system of trails also provides for implementation of a portion of EBRPD's Iron Horse Regional Trail system. The Park District's proposed Shadow Cliffs to Morgan Territory Trail would be implemented in approximately the alignment suggested by the District, including:

- The Cayetano Creek open space corridor connecting the southern edge of the Urban Area (Zone A) to May School Road, and
- Opportunities for connecting the trail to the Morgan Territories at the Contra Costa County line along North Livermore Avenue or through open space and conservation easements as future opportunities may arise.

Policy 3.6.1 Trail System. Trails shall be provided as identified by Figure 3.2: Pedestrian & Bicycle Circulation and in accordance with the policies below and in Section 7.7: Bicycle & Pedestrian Facilities.

Policy 3.6.2 Types of Trails. Provide trails within the North Livermore area which offer a variety of experiences including trails within and between parks and other publicly owned open space lands and schools, trails that provide access from the urban area to these lands, and trails that connect to regional trails and transit facilities both within and outside of North Livermore.

Policy 3.6.3 Provision of Urban Area Trails. Private developers shall incorporate trail routes that are within their proposed tentative map as identified by Figure 3.2. Development applications shall be evaluated to ensure that they incorporate proposed trails.

Policy 3.6.4 Trails in Annexed Land in the I-580 Hills. Developers of properties that include portions of the Zone C/I-580 Hills shall incorporate trails shown by Figure 3.2 into their project plans.

- a) Permit and encourage developers to implement trail improvements concurrent with development as an offset against project fees.
- b) Trail improvements may include pedestrian trails, occasional seating, appropriate tree plantings or other, similar improvements.

3.7 TRANSIT OPPORTUNITIES

ON-SITE TRANSIT FACILITIES

On-site transit opportunities will be supported by a transit node at the Village Core, designated bus stop locations within neighborhoods, and pedestrian/bicycle facilities connecting to the future proposed BART site near Isabel Parkway and I-580. Transit connections will also provide access to the existing ACE station.

Current policies for both the City of Livermore and Alameda County state that transit services should be provided primarily by major employment centers, but that residential projects should be required to include site plan features that reduce traffic trips. Consistent with this approach, the following policies address increased transit ridership:

Policy 3.7.1 Supporting Non-Automotive Transportation Modes. Require new development proposed within the North Livermore Plan Area to include features that promote the use of transit, bicycle, and pedestrian systems. These features could include bus turnouts, interconnected bicycle and pedestrian paths and sidewalks, and pedestrian-accessible features.

- a) The development of North Livermore shall include implementation of a community transit system. This transit system shall consist of the following primary elements:
 - i) Transit node at the Village Core,
 - ii) LAVTA bus routes, designated bus stops, bus turnouts along routes, and bus shelters.
 - iii) Bicycle storage facilities within the Village Core.

Policy 3.7.2 Minimizing Barriers to Access. Require that circulation and site plans for individual developments proposed within the North Livermore Plan Area minimize barriers to access by pedestrians, the disabled, and bicycles.

- a) Provide handicap ramps at all intersections and bicycle racks convenient to all retail, office and civic developments.

Policy 3.7.3 Village Core Transportation Demand Management Program. A Transportation Demand Management (TDM) program shall be developed for uses within the Village Core. The TDM program must have a transportation coordinator, funded by Urban Area development, who would be responsible for the development and administration of TDM program elements.

Policy 3.7.4 Supporting Transit Services. New development within the plan Area shall contribute to the development of new and expanded public transit services to be provided by the LAVTA WHEELS program and/or BART. These transit services should include but not be limited to:

- a) Bus service between the Plan Area and downtown Livermore, the Altamont Commuter Express, BART and other major regional and local destinations provided by LAVTA.
- b) Internal shuttle bus systems to serve local destinations within the Plan Area, and destinations near the Plan Area to the north of the I-580 corridor (the Tri-Valley Business Park and the Cayetano Corporate Campus).
- c) External shuttle bus systems to serve any Park and Ride lots that may be created when freeway interchanges along I-580 are reconstructed.

Policy 3.7.5 Transit Assistance Program. A short-term transit assistance program shall be developed to aid LAVTA in its ability to transition into an effective transit service for the Project's projected increased transit ridership. The assistance program shall be valued at \$2.5 million, and shall include the following components:

- a) The Financing Plan for North Livermore shall ensure that \$1.25 million is funded by development year 5 to provide funds for the acquisition of buses specifically designated for a North Livermore route, and operational subsidies beginning at year 7 of Project buildout (after completion of Phase 1).
 - i. Transit service would run during the a.m. and p.m. peak periods, linking the Project Area with other main commuter connection facilities (the LAVTA bus terminal and adjacent ACE rail stop, the Dublin/Pleasanton BART station and Park-and-Ride facilities).
 - ii. Service headways would be every 45 minutes to 1 hour. Transit service would not begin until after construction of Phase 1, at which time an adequate population base would be established to generate ridership, and the Village Core, which is intended to provide the physical center of transit facilities within the Project area, will have become established.
- b) An additional \$1.25 million shall be collected on a per-unit basis (at Final Map) to provide a steady stream of funding to support transit service operation costs throughout the remaining approximately 13 years of Project development.

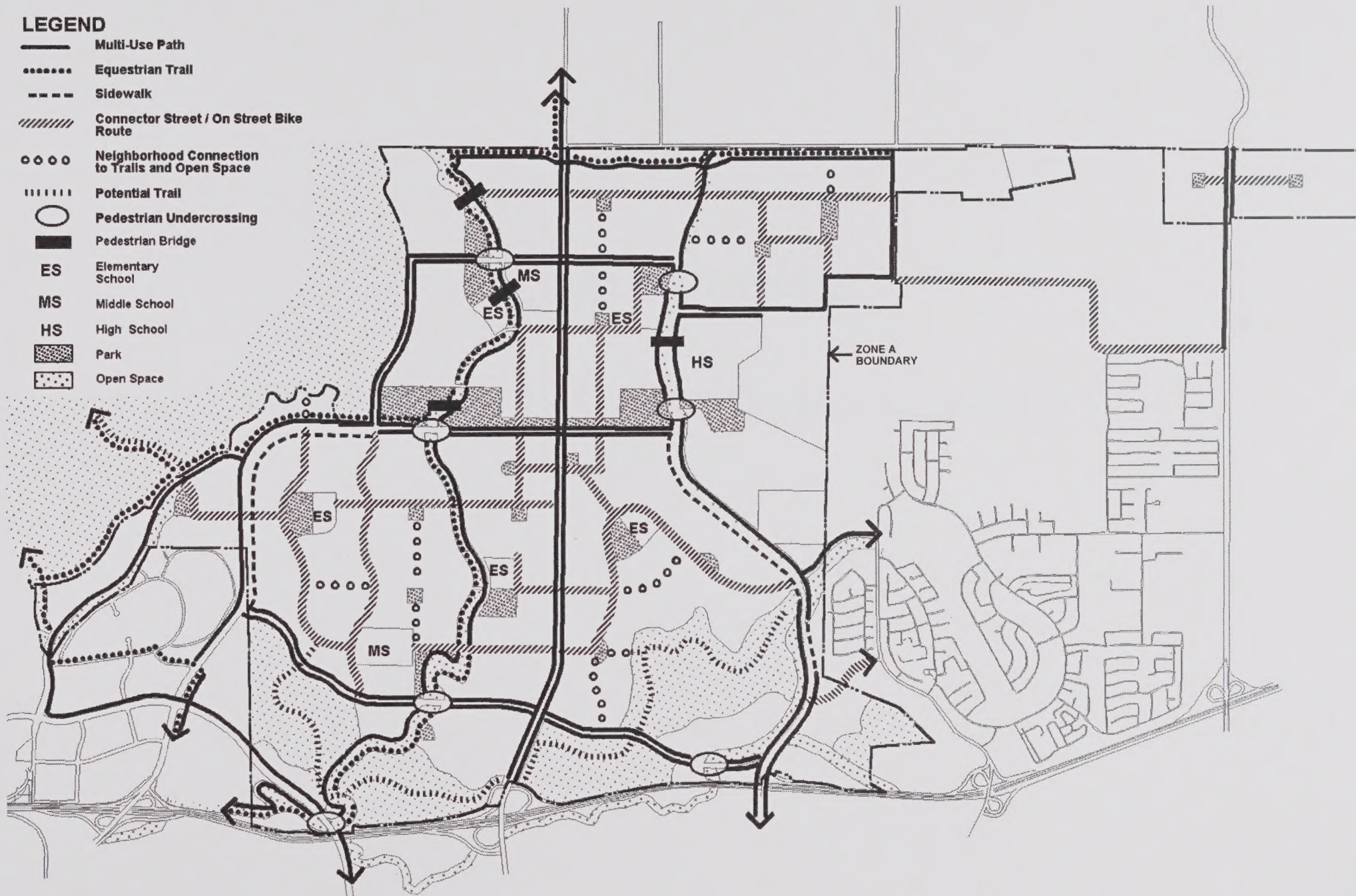


FIGURE 3.2: PEDESTRIAN & BICYCLE CIRCULATION

CHAPTER FOUR:

NATURAL RESOURCE MANAGEMENT

INTRODUCTION

This chapter addresses natural resource issues in North Livermore, including geology, biology, hydrology, cultural resources, noise and air quality.

Agricultural resources are addressed under parks and recreation in Chapter Five: Community Services & Facilities.

4.1 GEOTECHNICAL CONSTRAINTS

Like other portions of the San Francisco Bay Area, the Plan Area is characterized by high seismic activity. Potential hazards include:

Faults. The only earthquake fault zone considered active within the Plan Area is the Greenville Fault Zone, which lies along the hills in the eastern margin of the Plan Area, trending northwest to southeast, as shown in Figure 4.1. Concealed strike-slip faults and thrust faults may be present at depth beneath the Livermore Basin and adjacent hills (see Figure 4.1). These faults are not zoned active and attempts to find faults have revealed no evidence of fault offset. If these faults exist, they are concealed by overlying alluvial deposits.

Ground-Shaking. Liquefiable and densifiable sands are potentially present in areas of deep alluvial deposits within the Livermore Basin. Liquefiable soils may be present within upland areas with moderately steep slopes and moderate landslide potential, shown as Geological Constraint Area IV on Figure 4.1.

Slope Stability. Figure 4.1 identifies zones of greatest slope instabilities as upland areas with steep slopes locally greater than 30 percent (Geological Constraint Area II), and where moderately steep slopes are generally greater than 15 percent (Geological Constraint Area IV). Numerous existing slope instabilities are present in the western and eastern portions of the Plan Area. The areas most susceptible to landslides are identified on Figure 4.1 as Geological Constraint Areas II and III.

Expansive Soils. Expansive soils are present in surface soils over the entire Plan Area, and are common throughout the region. These soils can cause damage to pavement sections, concrete slabs, and foundations, and are also potentially unstable in areas of steep or moderately steep slopes.

Soil Erosion. Within the Plan Area, slopes greater than 20 percent are especially prone to severe erosional problems, but gentler slopes can also be of concern especially when surface stabilizing organic soils and vegetation are removed. Stream bank erosion is also prevalent on seasonal and perennial drainages within the Plan Area.

Impacts of the Plan. The majority of all proposed new development is located within the geologically stable valley floor (Constraint Area VI), as shown in Figure 4.1. Proposed new development within known seismically hazardous areas (Geological Constraint Area I: Greenville Fault Zone) is limited to low density residential development that can be located to avoid direct surface fault rupture effects. Additionally, all new major public facilities (e.g., fire stations, schools, other civic uses) and water storage, wastewater treatment and communications facilities proposed for the Plan Area are located in areas of low geologic risk. Major transportation facilities, pipelines and utility lines have been located to avoid or minimize crossings of active fault traces.

Policy 4.1.1 Resistance to Ground Shaking. All structures shall be built to seismic standards of the most recent edition of the Uniform Building Code effective at the time of development, and designed and constructed to withstand groundshaking forces of a minor earthquake without damage, of a moderate earthquake without structural damage, and of a major earthquake without collapse of the structure. Critical facilities and structures (such as schools, fire stations, civic centers, etc.) shall be designed and constructed to remain standing and functional following an earthquake.

Policy 4.1.2 Risk Reduction Measures. All construction proposed within the Plan Area shall incorporate ground shaking gas cutoff valves, strapping of water heaters to prevent movement, and any other appropriate risk reduction techniques deemed feasible.

Policy 4.1.3 Setback from Active Faults. No urban development or structure intended for human occupancy shall be permitted within 50 feet on either side of the Greenville Fault, as defined by the Alquist-Priolo Earthquake Fault Zoning Act, unless an appropriate geologic investigation by a certified engineering geologist registered in the State of California determines development to be safe and demonstrates that the hazard of surface displacement is low.

Policy 4.1.4 Investigation for Potential Fault Traces. Development within 200 feet of any mapped potential fault trace as shown in Figure 4.1 shall be approved only after an appropriate geologic investigation demonstrates that the hazard of surface fault rupture is not present. If the study identifies a geologic feature that suggests that surface fault rupture could occur, then a 50 foot setback should be maintained, or a lesser setback if it can be demonstrated that the hazard of surface displacement is low.

Policy 4.1.5 Geotechnical Investigations. Prior to grading plan or final map approval, all urban development proposed within areas of older alluvial deposits (Geological Constraint Area VI, as shown on Figure 4.1) shall be subject to site-specific geologic/geotechnical investigations, which shall address the potential for liquefaction and/or densification of subsurface soils.

- a) Investigations shall be performed under direction of a Registered Geotechnical Engineer (RGE) and/or a Certified Engineering Geologist (CEG) licensed in the State of California.
- b) Development should only be approved after a demonstration that liquefaction or densification is unlikely to occur, or that appropriate structural measures will be incorporated into the project.
- c) All reports shall be reviewed by an independent registered geological engineer or certified engineering geologist.

Policy 4.1.6 Slope Stability Investigations. Site-specific investigations of slope stability issues shall be satisfactorily completed under the direction of a registered geotechnical engineer or certified engineering geologist licensed in the State of California prior to final approval by the City for any urban development within constraint Area IV (shown as locations F, G and H). Reports shall identify slope stability hazards and present mitigations for any potential slope instabilities. Reports are to be reviewed by an independent professional licensed by the State of California.

Policy 4.1.7 Landslide Evaluation. All urban development proposed in areas within 200 feet of any mapped landslide shall be approved only after demonstration to the satisfaction of the City by a Registered Geotechnical Engineer and/or Certified Engineering Geologist licensed in the State of California that proposed development will not be threatened by the landslide. Such investigations shall specifically be required for proposed development in the following areas:

- a) The Lin Multi-family site adjacent to the future Portola Road extension, (location A). The landslide present in this area should be remediated. Remediation techniques should be identified in a design-level geotechnical investigation. Remediation methods are expected to include removal of all or part of the slide debris, creation of a buttress fill, and installation of proper subsurface drains.

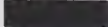
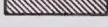
- b) Murray Ranch development above Collier Canyon Road and Las Positas College, (location B). The landslides present in this area should be remediated. Remediation techniques should be identified in a design-level geotechnical investigation. Remediation methods are expected to include removal of all or part of the slide debris, creation of a buttress fill, and installation of proper subsurface drains.
- c) North Livermore Avenue/Calle Las Positas, (location C). The landslide present in this area should be remediated by mass grading during construction of Calle Las Positas and the proposed adjacent residential development.
- d) Calle Las Positas to the proposed connection with the Isabel Parkway extension, (location D). The landslides present in this area should be avoided or remediated by mass grading during the construction of Calle Las Positas road improvements.

Policy 4.1.8 Soils Investigations. Prior to grading plan or final map approval, geotechnical investigations shall be performed for all Urban Areas proposed to be paved (foundations, streets, driveways, etc.) to identify potential areas of expansive soils. If such soils are found, the report shall present recommendations for design and construction that can limit the effects of expansive soils. Such recommendations may include:

- a) Increased road base
- b) Thicker foundation widths
- c) Pre-saturation of fill soils and placement above optimum moisture content
- d) Placing non-expansive imported soil in the upper portion of the building pad
- e) Spread footings, pad foundations, or footing wall foundations
- f) A combination of these methods

See Chapter Seven for erosion control and grading policies and standards.

LEGEND

- | | | | |
|---|--|---|--|
|  | Constraint Area I -
Greenville Fault, Alquist-Priolo
Special Studies Zone |  | Constraint Area V -
Gentle slopes and low
susceptibility to landslides |
|  | Constraint Area II -
Upland areas with steep slopes
($>30\%$) and high landslide
potential |  | Constraint Area VI -
Older alluvial deposits, liquifiable
layers may be present |
|  | Constraint Area III -
Alluvial and colluvial deposits
prone to landslides |  | Potentially concealed faults |
|  | Constraint Area IV -
Upland areas with moderately
steep slopes ($\pm 15\%$) and
moderate landslide potential | | |

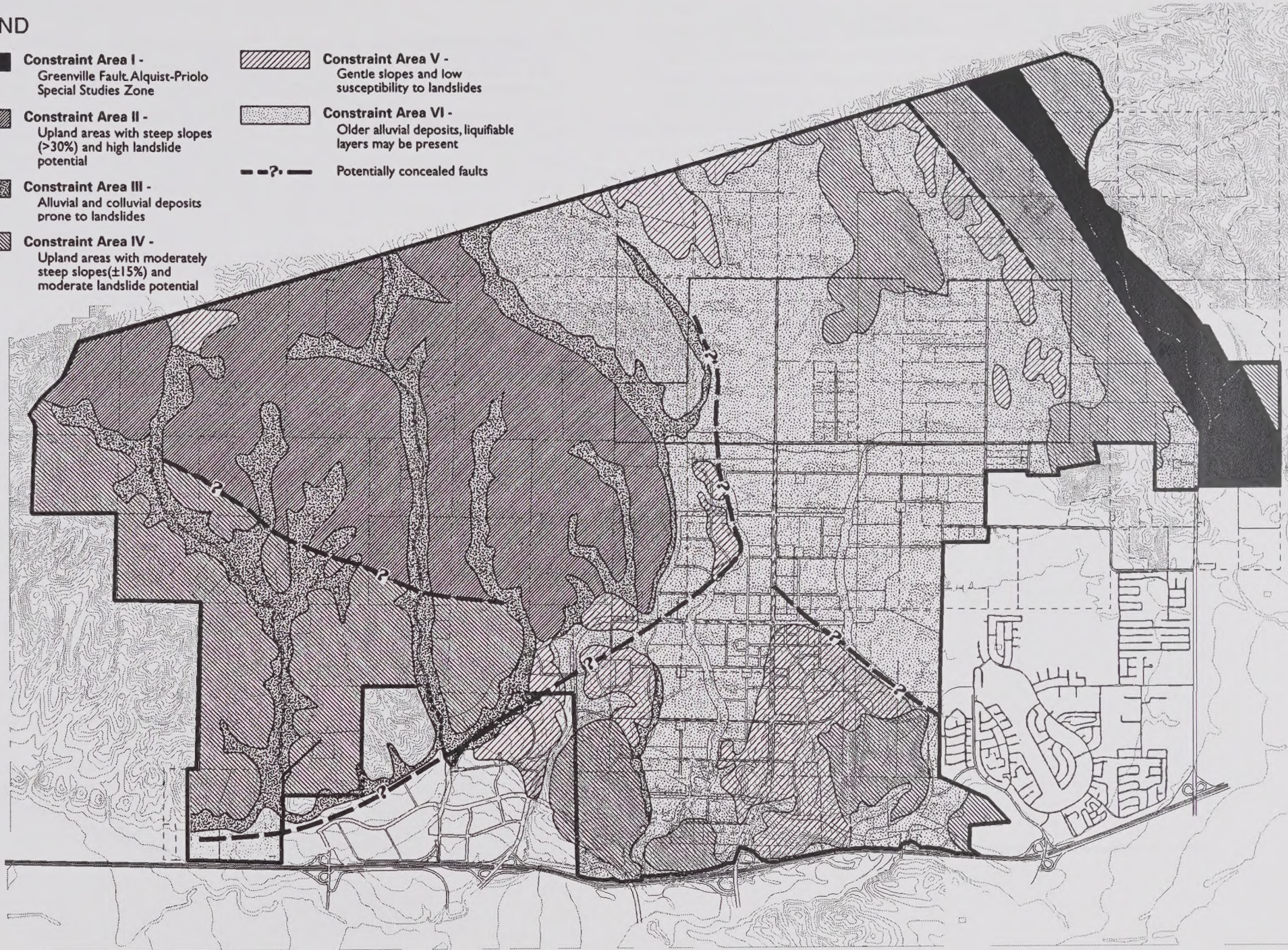


FIGURE 4.1: GEOLOGIC CONSTRAINTS

LEGEND

-  Setback from active fault within Greenville Fault Zone
-  Potential Fault Trace Investigation Area
-  Landslide investigations required
 - A. Lin MF site
 - B. Murray Ranch
 - C. N. Livermore Ave/
Calle las Positas
 - D. Calle las Positas extension to
Isabel Parkway
 - E. Adjacent to Zone D hills
-  Constraint Area IV -
Site specific slope stability
investigations required
 - F. Shea Homes residential
site north of open
space hills
 - G. Calle las Positas, adjacent to
Zone C hills
-  H. Low density residential area
adjacent to Zone C hills
near the North Livermore
interchange
-  I. Zone B northern
boundary

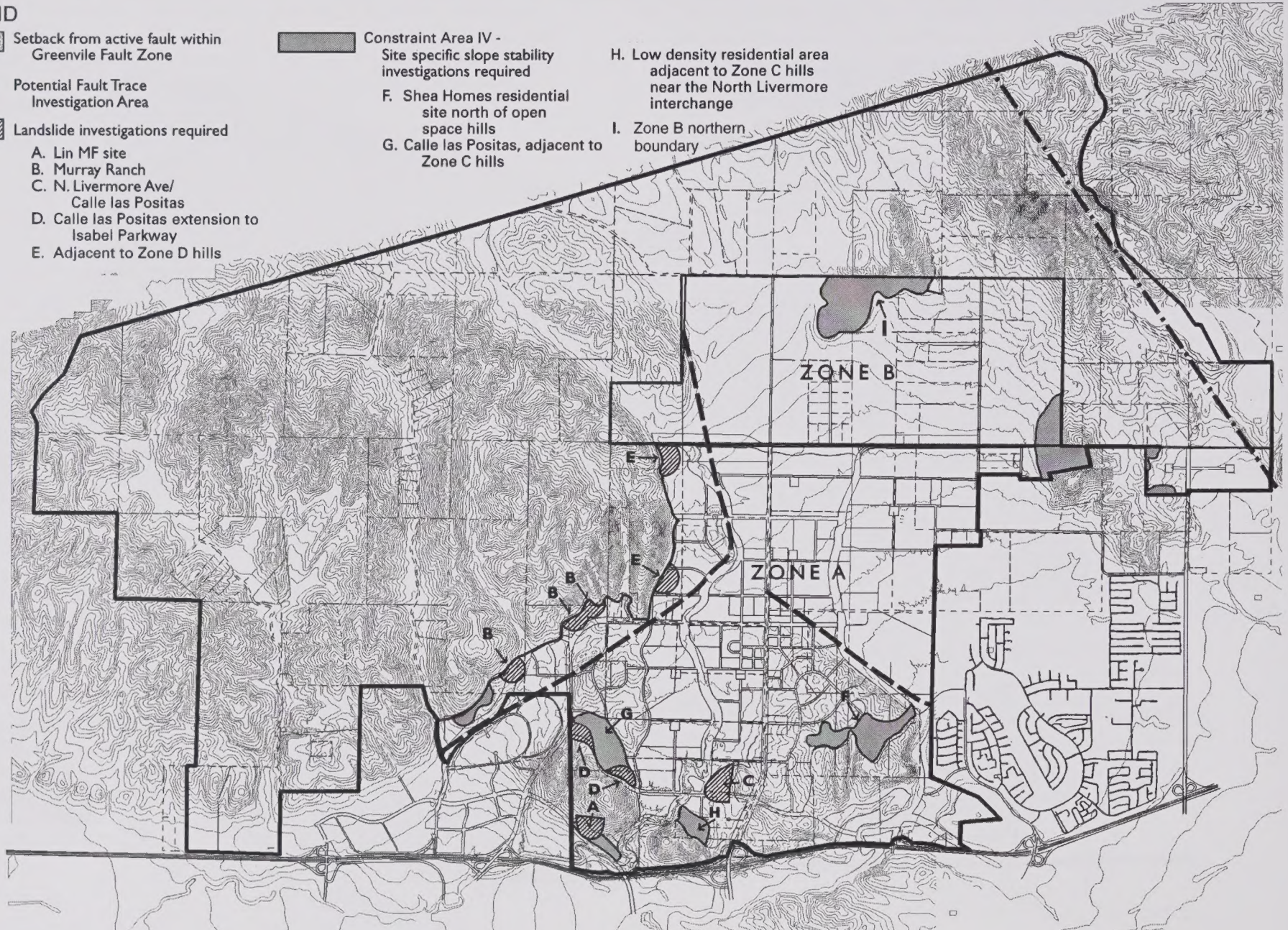


FIGURE 4.2: GEOLOGIC MITIGATION

4.2 RESOURCE CONSERVATION PROGRAM

The Resource Conservation Program (RCP), Volume III of this Specific Plan, provides a comprehensive resource conservation and habitat management program for the entire Plan Area, the approximately 70-acre Natural Communities Reserve (EMAX) and the approximately 300-acre property owned by the City of Livermore near the eastern boundary of the Plan Area. As an essential component of the Specific Plan, the RCP serves as a mitigation program for impacts of new development within the Plan Area on biological and open space resources. Under the RCP, mitigation is accomplished by acquisition of lands, in fee title or conservation easement, for:

- The preservation, enhancement and management of important biological resources
- The permanent protection of open space, agriculture, and sensitive visual resources

The RCP is a habitat-based program that will result in protection of habitat for a variety of sensitive species occurring within the Plan Area, including aquatic species such as vernal pool fairy shrimp, California tiger salamander, and the red-legged frog; grassland species such as the burrowing owl; and the endangered palmate-bracted bird's beak. As described in Volume III of this Specific Plan and summarized below, the RCP is comprised of the following key components to ensure protection of open space, agricultural lands and habitat areas:

Land Conservancy. The RCP is to be implemented by a non-profit North Livermore Land Conservancy established for the area.

Fee Program. The RCP will authorize collection of fees from urban development in Zone A (Urban Area) to fund the mitigation of biological, open space and agricultural resource impacts resulting from new urban development. Developers of land in the Urban Area will be required to contribute a fee of \$25,000 per residentially developed acre to the Conservancy as mitigation for the loss of these resources from the Urban Area. These fees will be used by the Conservancy to acquire fee title or conservation easements on large, contiguous rural/open space lands for resource and agricultural management from willing sellers. Over the projected life-span of the Plan, approximately \$50 million is anticipated to be generated by the fee program. Urban Area developers would also have the option of dedicating land and/or conservation easements to the Conservancy in lieu of fees.

Establishment and Management of Habitat Areas. Lands with important existing or potential biological values would be targeted for acquisition, and established and managed as Habitat Management Areas by the Conservancy. Establishment and management of these Habitat Management Areas is intended to provide comprehensive mitigation to offset the impacts of development in the Urban Area, and to provide a framework for subsequent resource agency approvals and authorizations that may be required for public improvements and specific development projects within the Project Area.

4.3 BIOLOGICAL RESOURCES

The majority of the Urban Area consists of annual grassland and dryland cultivated areas. Other biotic habitats include alkali grassland, intermittent drainages, riparian woodland, perennial aquatic, seasonal pools and swales, creeks, and developed/ disturbed areas. In addition to these habitat types, the Bird's Beak/Alkali Sink Reserve is contiguous with the Plan Area.

These habitats support a variety of sensitive wildlife and plant species. The Resource Conservation Program, Volume III of this Specific Plan, includes a detailed description of the biotic habitat types and sensitive species that occur within the Plan Area. The RCP also includes policies and programs designed to mitigate the effects that future urbanization will have on these resources.

4.4 ALKALI SINK HYDROLOGY

The Bird's Beak/Alkali Sink Reserve encompasses approximately 480 acres immediately adjacent to the Plan Area. Although it is not included in the Plan Area, it is included in this discussion because it is a unique biological community with specific soil and hydrologic characteristics that support several endemic plant and animal species, and it has the potential to be indirectly affected by the proposed Plan. For various reasons, alkali sink habitats have declined in extent in California, and the Springtown area is the only intact remnant of this community type remaining in North Livermore. The alkali sink also supports palmate-bracted bird's beak (*Cordylanthus palmatus*), a federally- and state-listed endangered plant.

The Plan Area's drainage system is designed to accommodate the location and magnitude of the anticipated increase in runoff due to development, and the associated increase in impervious surface area. See Chapter Six for a description and policies related to the overall hydrology, drainage system and water quality treatment systems for Plan Area.

DRAINAGE SYSTEM

The drainage system is designed to maintain the hydrological regime of surface water (storm water runoff) entering into the Alkali Sink, as follows:

- As part of the proposed drainage system design, a new drainage channel, East Creek, will be constructed in a north/south direction to the west of the Birds Beak/Alkali Sink Reserve. East Creek will collect runoff from both upland and urbanized portions of the eastern watershed. It will then bypass the Alkali Sink and discharge into Arroyo Las Positas at a location south of the Sink.
- A diversion pipe or ditch will be constructed to collect runoff from open space areas upstream of the Urban Area (i.e., north of May School Road), and deliver this non-urban runoff to the Sink.
- All runoff from the developed (Urban Area) portion of these watersheds (i.e., south of May School Road) will be delivered to East Creek below the diversion, thereby bypassing the sink. The purpose of delivering runoff from the Urban Area into East Creek below the diversion to the Sink is to prevent urban runoff (which may contain urban pollutants), from entering into and potentially contaminating the sink, and to maintain the hydrological regime of surface water entering into the sink.

This drainage plan could be so effective in capturing the increased runoff from the site following development that it would actually result in a net reduction in runoff delivered to the Sink, as well as changing the runoff dynamics at each of the separate entry points to the sink. To avoid this problem, the existing watershed divides above the Sink will be modified to allow more area to drain into the Sink as follows:

- The portion of the Urban Area west of East Creek will drain into East Creek, and will no longer contribute flows to the Sink.
- The portion of the Urban Area located east of East Creek will be diverted to drain into the sink. This will result in a net annual runoff into the Sink that will approximate the existing runoff conditions.
- With re-configuration of the FCC monitoring station, portions of Hartford and Lorraine Avenue in the northwest corner of the Alkali Sink would be removed, allowing for the restoration of the historic inflow system in this area.
- Additionally, a system of subterranean storm drainage lines operated and maintained by the Conservancy will be used to adjust the distribution of runoff to each entry point into the Alkali Sink so as to approximate existing conditions.

WATER QUALITY

Maintaining the existing condition runoff volumes will require that runoff from the Urban Area (and other surrounding areas planned for urbanization) be directed into the sink. Runoff from urban areas would be anticipated to contain non-point source pollutants including suspended sediments, nutrients, oil and grease, and heavy metals. Most of these pollutants are transported attached to soil particles. Due to the concentrating effect of the sink hydrologic system, there is significant potential for these substances to concentrate in the sink and degrade habitat values.

The Plan provides for the construction and use of small detention basins that would cleanse and re-route runoff to the same portions of the Alkali Sink as existing conditions, as follows:

- Flow from the non-urban portion of the watershed above May School Road would be conveyed down East Creek and then diverted to the Alkali Sink through a drainage pipe or ditch tributary to entry point 3. This drainage would flow into a grass and/or vegetative-lined channel that would provide filtration and settling of suspended sediments and other pollutants.

- Flow from urban areas west of East Creek would enter East Creek. Within the East Creek open space corridor, both off-line and in-line water quality basins would be established to aid in the reduction of the pollutant loads. These basins would trap sediment particles and other pollutants from low flows within the channel.
- Flow from urban areas to the east of East Creek would be conveyed to stormwater/ water quality basins prior to discharge to the sink.

WATERSHED MANAGEMENT POLICIES

Policy 4.4.1 Maintaining the Existing Surface Water Hydrology Regime of the Alkali Sink. Existing surface water runoff volumes and water quality entering the Alkali Sink shall be maintained during and after Plan Area construction.

- a) Appropriate modification of watershed runoff into the Alkali Sink shall be implemented to ensure that the total volume of surface runoff entering the Sink is maintained at existing conditions, and that this total volume of runoff is allowed to enter the Alkali Sink at similar entry points and at similar rates of flow as under existing conditions.
- b) Provide detention facilities designed to filter and trap sediments and other pollutants from surface water runoff prior to discharge into the Alkali Sink in order to maintain existing surface water quality entering the Sink.
- c) Alternatively, supplemental water supply sources such as flood irrigation, stand-by well irrigation, or development of a passive subsurface irrigation system may be used to maintain the hydrological regime of the Sink.

Policy 4.4.2: Design of East Creek. The Plan locates the proposed East Creek drainage as far away from the Sink as possible so as to minimize its influence on the surface water and groundwater flows to the alkali sink , and shall be designed as follows:

- a) East creek shall be designed to be as shallow as possible to minimize potential hydrological impacts.
- b) The design of East Creek shall provide a low-flow channel within a larger 100-year flow channel placed within a 150-foot greenbelt.
- c) In the southerly portions of this watershed, groundwater is encountered at approximately 3 to 4 feet below the surface, and seasonal ponds and wetlands are located at the surface. In this area, the channel shall be placed within an underground pipe where high groundwater levels and/or wetlands are encountered.

Policy 4.4.3: Protection of Preferential Flow Paths. Construction within the Urban Area of the Project shall seek to minimize disturbance to preferential flow paths.

- a) Because of their importance to the salt balance of the sink, the first 300 feet of all preferential flow paths reaching outward from the boundary of the Alkali Sink shall be preserved as open space (see Figure 10.5).
- b) Landowners of properties that contain moderate or high salinity preferential flow paths (located to the north and/or east of the Alkali Sink) shall verify the presence, precise location and width of those pathways, and further investigate their hydrogeologic function and significance to the Sink. Individual preferential flow paths were not mapped and examined in detail in the field, and some of the pathways may be incorrectly identified, or exaggerated in both their areal size and hydrologic importance to the Sink as significant sources of surface, near surface and shallow groundwater flow.
 - i. Verification studies shall be conducted by a registered/certified hydrogeologist, based on site-specific field investigation of subsurface conditions.
 - ii Recommendations of the verification studies shall be made to the City and Scientific Advisory Committee established pursuant to the Resource Conversation Program.
 - iii The City, in consultation with the Scientific Advisory Committee and in coordination with affected landowners, shall determine the relative importance of the preferential flow path in relationship to the overall contribution of groundwater and salts to the entire sink, and shall determine the potential for mitigation of groundwater interruption through enhancements or protection of flow paths or other measures found to be appropriate.
- c) In the event the findings under b) conclude a flow path provides a significant source of surface, near-surface and/or subsurface flow, the flow path shall be protected. Protection of moderate or high salinity preferential flow paths may be achieved through implementation of the following techniques, or others as determined appropriate by the Community Development Director in consultation with the Scientific Advisory Committee:
 - i. Establish an open space buffer protection zone around the flow path; or implement one or more of the following:

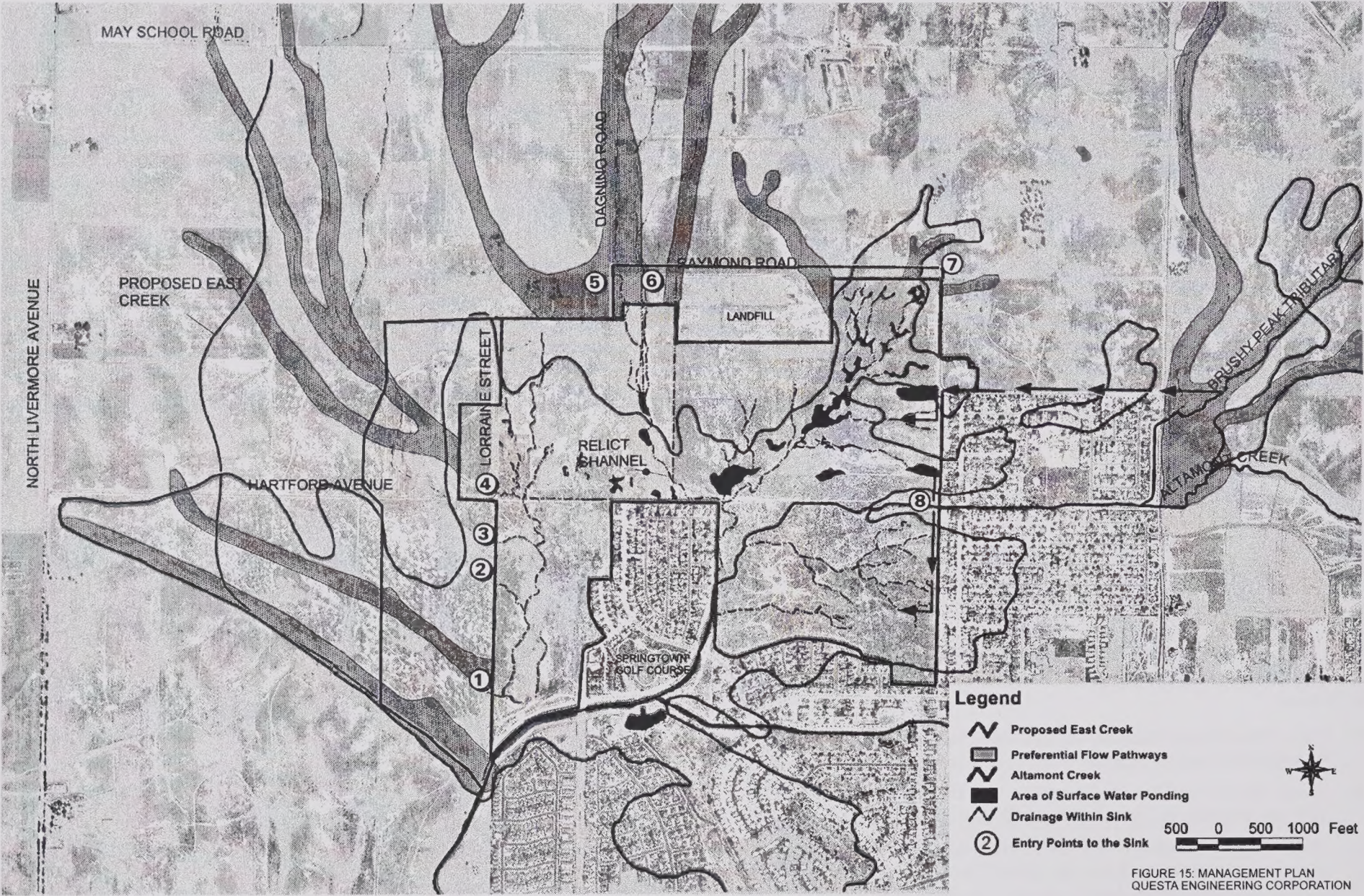


FIGURE 4.3: PROJECT HYDROLOGY

- ii. Avoid road crossings where possible, and, where road crossings are necessary they shall be designed to maintain the percolation integrity of the flow path by either bridging the flow path, or developing other engineering solutions (i.e., highly permeable fill sections) that provide equivalent protection;
 - iii. Place new structures no closer than 15 feet from the edge of the flow path;
 - iv. Avoid utility crossings of flow paths where possible and, where necessary, construct utility crossings to be either above ground in combination with roadway bridges or below the depth of the flow path using jack and bore construction methods;
 - v. Design internal street systems such that flow paths are located in adjacent grass swales;
 - vi. Design residential neighborhoods such that flow paths are contained within back yards or side yards;
 - vii. Prohibit grading or compaction of the surface area above flow paths.
- d) In the event the findings under b) conclude that the importance of a flow path is similar to those west of the sink (i.e., low salinity), the policies under e) below shall apply.
- e) Urban development is allowed on the low salinity preferential flow paths (located to the west of the Alkali Sink). These flow paths shall be protected so as to maintain the recharge of local groundwater and minimize alteration to the natural groundwater flow patterns by:
- i. Minimizing the disruption of groundwater flow to the sink during any trenching for utilities and foundations along preferential flow paths. Utility trenches in these areas shall be designed to allow the passage of water in permeable zones and avoid diversion of intercepted groundwater either laterally or through confining beds. Open trenches shall be inspected for the occurrence of permeable materials, and the trenches shall be backfilled with similar materials to maintain flow continuity. Trench bottoms and trench ends shall be capped to prevent diversion.
 - ii. Using clay lining for the bottoms of deeper ditches to prevent dry season interception of groundwater flow.

- iii. Design roadways and structures located on or near the flow paths to disperse the weight load from off of the paths to the extent possible.
- iv. Minimizing impervious cover with narrow street widths, and allowing for surface drainage across lawns or side yard grass swales within residential lots to approximate existing percolation/recharge rates.
- v. Minimizing residential over-irrigation.

4.5 GROUNDWATER QUALITY

The Livermore-Amador Groundwater (Main) Basin and the Niles Cone Groundwater Basin would both be affected by the potential salt loading impacts associated with development within the Plan Area. Urban irrigation represents a large component of the potentially controllable portion of the total salt loading to the Main Basin. Any decrease in the amount of water applied as urban irrigation that contributes to the main basin will result in a direct decrease in salt loading. Policies within Chapter 6 of this Plan require water conservation strategies for urban irrigation use, and can reduce potential salt loading effects.

Zone 7 of the Alameda County Water Conservation and Flood Control Agency is the agency responsible managing the Main Basin. Zone 7 is developing a Salt Management Program intended to improve the salt balance within the Main Basin. Implementation of the Salt Management Program would not occur at the Project site, but at more strategic locations where recharge is more direct, and at new and existing wellheads. The effectiveness of Zone 7's Salt Management Program will be dependent upon the final management strategies, and operational and policy decisions selected for implementation. Generally, implementation of all strategies would have the effect of improving groundwater quality, with the subsequent beneficial effect of improving delivered water quality.

Policy 4.5.1 Participation in Zone 7's Salt Management Program. The Project shall participate on a fair share financial basis in implementation of Zone 7's Salt Management Program, once such a program has been adopted.

- a) As a method for determining fair share participation, a surface water monitoring program (both flow and quality), in coordination with Zone 7 and ACWD monitoring activities, shall be implemented to evaluate actual salt loading impacts resulting from the Project.
- b) Potential salt management strategies anticipated to be implemented by Zone 7 may include increased conjunctive use of the Main Basin, wellhead demineralization and seasonal groundwater export. Final implementation of the program would likely include a combination of these various strategies.

4.6 CULTURAL RESOURCES*PREHISTORIC/ARCHEOLOGICAL SITES*

The Plan Area contains one known archaeological site, a prehistoric midden situated on Arroyo Las Positas. This site would likely qualify as a significant historical resource because of the likelihood that the deposit would yield sufficient chronologic data to allow placement of the site into local and regional archaeological sequences. However, the plan does not propose any disturbance to the site or its vicinity.

Policy 4.6.1 Prehistoric/Archaeological Sites. Development shall be designed to avoid all prehistoric sites, or, if avoidance is determined to be infeasible, to implement appropriate mitigation measures that offset the impacts to these resources. Focused subsurface testing prior to the commencement of development is encouraged as a more efficient alternative to encountering prehistoric sites during construction because it allows project redesign or site excavation at an early stage. Review of development plans for specific projects by a qualified archaeologist may obviate the need for some subsurface testing if it can be demonstrated that potential resources would be left intact by the specific project. If a resource is uncovered, the same evaluation/excavation procedures recommended in program b) below shall be implemented.

- a) Focused subsurface testing to confirm the presence or absence of prehistoric sites by means of mechanical backhoe trenching shall be required in the following locations:
 - i. Within the Cayetano Creek open space/drainage corridor in Zone A. Additional testing may be required on adjacent parcels if a resource is found within the creek corridor.
 - ii. Within the Cayetano Creek drainage in Zones B and D in the area developed for the reclaimed water storage reservoir.
 - iii. On parcels and future road alignments slated for commercial or residential development along Arroyo Las Positas (parcels 15, 19 and 33), Collier Creek (parcel 83), and Arroyo Seco (parcels 22-26). Affected roadways include Murray Ranch Road and Las Colinas Avenue where they directly adjoin the creek corridor.
- b) The discovery of prehistoric resources during grading and construction shall result in the cessation of such activities within 50 feet of the resource until the significance and extent of those resources can be ascertained by a qualified professional.

Policy 4.6.2 Archaeological Sites as Historical Resources. Preferred mitigation for historical resources of an archaeological nature is “preservation in place” which may be accomplished by avoidance, incorporation into open space, covering, and deeding the site into a permanent conservation easement. When data recovery through excavation is the only feasible mitigation, a data recovery plan, which makes provision for adequately recovering the scientifically consequential information from and about the historical resource, shall be prepared and adopted prior to any excavation being undertaken. Such studies shall be deposited with the California Historical Resources Regional Information Center.

- a) Data recovery shall not be required for an historical resource if the lead agency determines that testing or studies already completed have adequately recovered the scientifically consequential information from and about the archaeological or historical resource, provided that the determination is documented in the North Livermore Specific Plan EIR, and that the studies are deposited with the California Historical Resources Regional Information Center (CEQA Guidelines Section 15126.4).
- b) The applicant’s financial responsibility for this mitigation shall be as specified in CEQA Guidelines Section 15126.4.

UNIQUE ARCHAEOLOGICAL, PALEONTOLOGICAL RESOURCES OR GEOLOGIC FEATURES

Policy 4.6.3 Unique Archaeological Resources. Preferred mitigation for “unique” archaeological or paleontological resources is “preservation in place” which may be accomplished by avoidance, incorporation into open space, covering, and deeding the site into a permanent conservation easement. When data recovery through excavation is the only feasible mitigation, excavation shall be restricted to those parts of the resource that would be damaged or destroyed by the project.

- a) Excavation shall not be required if the City or County, as appropriate, determines that testing or studies already completed have adequately recovered the scientifically consequential information.
- b) The applicant’s financial responsibility for this mitigation shall be as specified in PRC 21083.2 and CEQA Guidelines Section 15064.5.

PREHISTORIC HUMAN REMAINS

Policy 4.6.4 Prehistoric Sites with Human Remains. Archaeological sites known to contain human remains shall be treated in accordance with the procedures found in CEQA Guidelines Section 15064.5 (d)-(e) and Health and Safety Code Section 7050.5:

- a) There shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until the County coroner is contacted.
- b) If the coroner determines the remains to be Native American, the coroner shall contact the Native American Heritage Commission within 24 hours.
- c) Disposal of the remains shall be in accordance with Section 15064.5 (e).

HISTORIC SITES

During the course of field surveys within the Plan Area, one prehistoric site, one prehistoric artifact isolated from its environmental context (isolate), and 35 historic period resources were identified; two of the historic resource sites also contained prehistoric isolates. Each site is designated by a field number — i.e., NLS-1, or North Livermore Survey Site 1 (see Figure 4.4). The resources are categorized into three classes, classified on the basis of architectural and archaeological potential and possible association with persons significant in local history. The classes are as follows:

Class I. Ranch complexes with standing architectural structures that may also contain historic subsurface (i.e. archaeological) deposits, for example, in trash piles, wells, and privies. These structures may have value as exceptional or representative examples of a specific building type and can be dated and associated with specific households through investigation, documentary evidence, and oral histories.

Class II. Historic settlement locations where architectural features are no longer standing but where there is potential for historic subsurface deposits.

Class III. Special use features that are not associated with subsurface deposits; these are generally isolated features, such as windmills, water tanks, and corrals, which can add historic context to the evaluation of larger ranch complexes and be of interpretive value in studies of changing land use, through they may lack architectural significance.

Policy 4.6.5 Historic Resources. Significant historic resources such as buildings, special use structures, and artifacts which contribute to the heritage of the Livermore-Amador Valley have been identified as shown on the Historic Resources Sensitivity Map, on file at the City and the County. Development shall be designed to avoid all significant historic resources, or, if avoidance is determined to be infeasible, to implement appropriate mitigation measures that offset the impacts to these resources.

- a) The Sensitivity Map for Historical Resources shall be updated to include all properties within the Plan Area, based on historic maps of the area and known and recorded sites. This update shall be prepared by a qualified professional for properties within the Urban Area (Zone A), and the Rural Management Area (Zone B), except for the existing Bel Roma neighborhood.
- b) All properties that have not been previously surveyed as part of the environmental review for the North Livermore Specific Plan shall be field inspected by a qualified professional before approval of a tentative map for the subject property. Assessment of historic resources shall use the classification system applied by Holman & Associates (May 1998) for the North Livermore Specific Plan EIR.
- c) All historical resources identified by the EIR and the Sensitivity Map, and subsequently identified historical resources, shall be subject to one of the three further levels of documentation, depending on the classification of the resource (i.e., Class I, Class II, or Class III). The resource will be considered significant if the evaluation shows, to the satisfaction of County and City staff, that the resource meets the criteria of significance described in CEQA Guidelines Section 15064.5.
 - i. Class I sites (Sites with Architectural Features and Potential for Historic Subsurface Deposits) that will be affected by development shall be formally recorded on State of California Primary Record Forms (Form DPR 523), and applicable attachments. For some of the sites, this will entail additional archival research and/or oral histories so that the importance of the site and the people associated with it can be evaluated in terms of local and state history. Class I sites with potentially significant standing structures shall be evaluated by a qualified architectural historian familiar with the region and its resources. Documentation may include photographs and drawings of structures if they are determined to be unique or the best examples of their kind. If the standing structures will be moved or destroyed, testing shall be conducted to determine the presence of significant subsurface features,

- such as buried foundations and filled-in privies and wells. If testing reveals the presence of archaeological historical debris, an amount of the material shall be hand excavated and curated with an archaeological repository.
- ii. Class II sites (Sites with Archaeological Potential but no Standing Architectural Features) that will be affected by development shall be formally recorded on State of California Primary Record Forms (Form DPR 523), and applicable attachments. These sites may also require additional archival research. If subsurface impacts will occur, testing should be conducted to determine the presence of significant subsurface features as described under (1) above.
 - iii. Class III sites (Isolated Special Use Features) that will be affected by development shall be formally recorded on State of California Primary Record Forms (Form DPR 523), and applicable attachments.
- d) Development shall, where possible, avoid substantial adverse changes to significant historic resources. If avoidance is infeasible, the resource shall be restored or rehabilitated according to the Secretary of the Interior Standards. If restoration on-site is infeasible, relocation to a receiving site shall be considered. If relocation is infeasible, historic resources shall be thoroughly documented (i.e., historic narrative, photographs or architectural drawings) before demolition by a qualified professional and the information made available at a public facility in or near the Plan Area.
 - e) All archival information resulting from the above measures shall be made available to the public in a specially designated location in the community.
 - f) Placement of an identifying marker on sites developed under the Plan and associated with important persons or families in the Livermore Valley (e.g., Livermore, Valentin, Munch, Doolan, Murray, Hartmann, Prall, Cronin, etc.) shall be required prior to final map approval.
 - g) A receiver site shall be identified within the Plan Area, by joint agreement between the City and the County, for the relocation of structures and the display artifacts of local historical interest. Possible sites in the Plan Area shall be determined based on the suitability at the site to provide appropriate historical context for the relocated structure. The urban parks shall be considered as possible receiver sites for artifacts such as wind mills, wooden water tanks, and wagons. Proposals to move historic structures shall be reviewed by qualified professionals.
 - h. Implementation of the above programs shall be the responsibility of the jurisdiction in which the resource is located:
 - i. The City of Livermore shall implement the above programs for Zone A in conjunction with its Historic Preservation process as identified in City Ordinance, Chapter 2.44, Chapter 15.68, and Chapter 17.20. The City shall consult with County staff and the County Park, Recreation, and Historical Commission regarding all significant historical resources within Zone A.
 - ii. Development sites within Zones B, C and D containing significant Class I resources shall be referred to the County Parks, Recreation, and Historical Commission pursuant to the County's HP zoning district. The Commission shall make recommendations regarding the resource and determine if additional CEQA review is necessary. The County shall consult with City staff and the City's Historic Preservation Commission regarding all significant historical resources within Zone B.
 - iii. Costs for the moving and restoration of historic resources shall be the responsibility of the City or the County, as appropriate. Costs for site survey, evaluation, documentation, and demolition shall be the responsibility of the owner.

Policy 4.6.6 Access to Historic Resources. The City and the County shall facilitate public access to the Plan Area's historic resources.

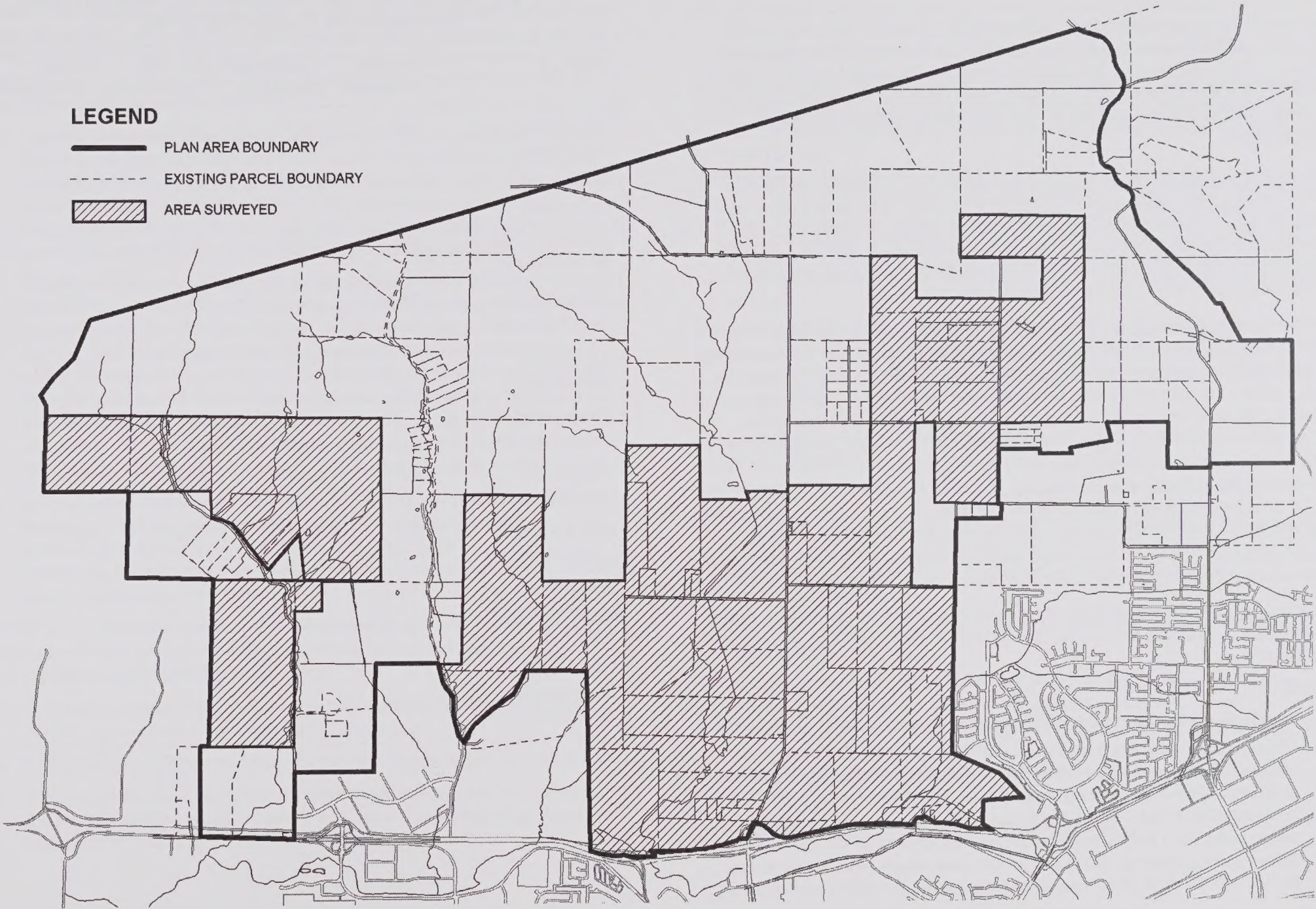


FIGURE 4.4: CULTURAL RESOURCE SURVEY AREAS

4.7 NOISE

The major noise source affecting the Plan Area is vehicular traffic on Interstate 580. Other local roads such as North Livermore Avenue and Collier Canyon Road contribute to the noise environment. The noise level diminishes significantly as one moves north of the freeway to a point where distant aircraft flyovers and natural sounds such as birds and wind in vegetation become predominant.

Acoustical criteria for the Project Area and adjoining areas have been adopted by both the City and County. The State of California also has standards for multifamily housing. These criteria have been compiled into a singular approach to address noise impacts and noise/land use compatibility within the Plan Area. Existing and future land uses within the Plan Area shall achieve the following land use compatibility criteria as shown in Table 4.1.

A variety of arterial roadway edge treatments have been developed to address future roadway noise, including the use of setbacks, frontage roads, side and front yard designs and privacy walls along North Livermore Avenue and potentially other roads. The preferred treatment depends on the topography and other factors. These arterial roadway edge treatments are more fully described in Chapter 7 – Community Design. These edge treatments would have the effect of reducing noise levels at all proposed building facades to levels considered to be “conditionally acceptable” for residential uses (between 55 and 70 dB DNL). In those locations where projected noise levels at building facades would exceed 60 dB, the traffic noise in outdoor use areas would be blocked by the residential building or side yard fence (an approximate 5 dB reduction) such that all outdoor use areas would be exposed to an outdoor noise level of 60 dB or less.

In addition to the arterial roadway edge treatments, the following policies ensure that noise sensitive uses achieve the threshold of 60 dB for outdoor use areas and 45 dB indoors:

Goals

- A. Residential indoor use areas (including hotels and motels): DNL of 45 dBA**
- B. Residential outdoor use areas: DNL of 60 dBA for single-family housing and DNL of 65 dBA for multi-family housing. (If achieving a DNL of 60 or 65 dBA is not feasible due to aesthetic, economic or acoustical constraints, then higher noise levels may be allowed at the discretion of the governing agency. One example of areas where noise levels might exceed a DNL of 65 dBA is small outdoor decks in multifamily housing.)**

Table 4.1: Goals for Land Use Compatibility for Community Noise Environments in Terms of DNL in dBA

Land Use	Normally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable
Residential - low density	<60	55-70	70-75	>75
Residential - multifamily	<65	60-70	70-75	>75
Transient lodging, motels, hotels	<65	60-70	70-80	>80
School, library, church, hospitals	<70	—	70-80	>80
Auditorium, concert hall	—	<70	>65	—
Sports arena, outdoor sports	—	<75	>80	—
Playground, neighborhood parks	<70	—	60-75	>73
Golf course, water recreation	<75	—	70-80	>80
Office buildings, business commercial, retail	<70	70-75	>75	—
Industrial, manufacturing, agricultural	<75	50-75	70-80	75-85

Policy 4.7.1 Acceptable Noise Levels. In most cases the proposed "arterial street edge treatments" and orientation of buildings will reduce outdoor noise levels to a DNL of 60 dBA or less. In those instances where the DNL is in excess of the 60 dBA standard, design practices shall be implemented to reduce noise levels in outdoor use areas to less than 60 dBA.

- a) Future development along North Livermore Avenue, Jensen Road, Murray Ranch Road, Hartman Road and Calle Las Positas will be required to use fences or place the building facade between the arterial road and the outdoor use area to achieve a 60 dBA noise level at the outdoor use area (i.e., backyards, patios, etc.). Future applicants shall be required to show how their project design meets the 60 dBA standard for outdoor use areas.
- b) Commercial uses along I-580 and some residential uses (including residential areas northwest of the Las Colinas overpass and high-density residential uses located north of the Portola overpass) would be exposed to excessive noise from I-580. For residential uses and commercial uses with usable outdoor space, the future DNL will exceed the "normally acceptable" goal of 60 dB for residences and 70 dB for commercial uses such as offices. Noise studies shall be prepared for all uses exposed to levels in excess of "normally acceptable" levels to show how both the outdoor use area threshold of 60 dBA and the indoor noise threshold of 45dB shall be met in these locations.
- c) All residences, hotels and motel exposed to a DNL in excess of 60 dBA will require sound-rated windows and mechanical ventilation capable of achieving the indoor noise requirement of a DNL of 45 dBA. As an alternative, the applicant may prepare a study demonstrating how the 45 dBA interior standard shall be met.

Policy 4.7.2: Minimize Impacts of Noise-Generating Uses. Noise attenuation strategies shall be incorporated into all potential noise generating uses. Noise attenuation strategies shall include:

- a) Outdoor-use spaces shall be located behind buildings so that the building shields noise-sensitive uses from the noise sources.
- b) Noise barriers shall be constructed between commercial uses and residences.
- c) Limitations (hours of operation, maximum sound level) shall be placed on the use of amplified sound at schools and parks. These limitations should be consistent with the City of Livermore Noise Ordinance.

- d) Mechanical equipment noise at commercial and residential areas must be controlled consistent with the City of Livermore Noise Ordinance. Methods include quiet equipment, sound attenuating enclosures and noise barriers.
- e) Full disclosure shall be required for all residential uses that are adjacent to or directly across the street from schools, neighborhood parks or playgrounds. The disclosure must state the typical hours of operation and noises associated with the use.
- f) Additional acoustical analyses may be required for specific noise-generating activities that have the potential to adversely impact adjacent residences or other noise-sensitive uses. The analysis should identify the noise level and the means by which outdoor and indoor noise levels can be controlled to achieve the outdoor use area threshold of 60 dB DNL and interior noise levels of 45 dB.

Policy 4.7.3: Construction Noise Reduction. Construction noise shall be controlled so as to meet applicable City codes and minimize annoyance on surrounding land uses. Specific mitigation measures to reduce construction noise impacts include:

- a) Construction activities shall be limited to the hours of Monday to Friday from 7:00 am to 7:00 p.m., and Saturdays from 8:00 a.m. to 5:00 p.m.
- b) Trucks shall be staged and routed through less noise-sensitive areas.
- c) All construction equipment shall be equipped with mufflers, and contractors shall demonstrate to the satisfaction of the City or the County that all equipment is equipped with manufacture recommended mufflers of equivalent mitigation.
- d) Stationary construction equipment shall be prohibited within 100 feet of existing residences.
- e) A construction noise coordinator shall be designated to receive calls from residences regarding specific noise related complaints. A log of all complaints shall be kept on file for review by the City. The construction noise coordinator shall act as a liaison between residences in the vicinity of construction and the contractor, so that perceived noisy activities are addressed as soon as possible.
- f) Locating temporary barriers around noisy equipment.

4.8 AIR QUALITY

The Plan Area is within the nine-county San Francisco Bay Area Air Basin. The Bay Area Air Quality Management District (BAAQMD) is the agency responsible for monitoring and regulating air pollutant emissions from stationary, mobile, and indirect sources within this area. The principle factors that affect air quality in the vicinity of the Plan Area include:

- Climatic subsidence, temperature inversions, and low wind speeds
- Vehicle emissions on I-580 and SR 84
- Mobile and stationary pollutants generated by local urban growth

The most severe air quality problems in the area are a high level of ozone and exceedance of suspended particulate matter (PM10). Other pollutants, including carbon monoxide, nitrogen dioxide, sulfur dioxide and lead, do not exceed standards and are not expected to exceed standards in the future.

LONG-TERM LOCAL AND REGIONAL AIR QUALITY

The plan includes two features that would help reduce or minimize impacts on air quality. The first is the inclusion of a centralized mixed-used Village Core, providing neighborhood commercial uses that would encourage pedestrian/bicycle use between adjacent residential areas and the Village Core land uses. This characteristic allows the following features to be included in the Plan:

- The Plan utilizes an extensive bikeways and a trail system along major roadways and through open space areas to connect residences to village core and public uses
- The Plan has bus stops planned for future transit trips
- A transit node is provided within the Village Core to accommodate service to the Pleasanton BART station
- The Plan's street patterns provide multiple and parallel routes between destinations
- Sidewalks and bikeways are to be provided along urban arterials and collector streets
- Pedestrian and bicycle connections are planned between residential areas and nearby transit stations/stops, commercial areas, centers of employment, parks and schools

The Plan will also serve to improve the balance of housing and jobs within the City of Livermore and greater Tri-Valley region. Jobs/housing imbalances encourage long-distance commuting because insufficient housing opportunities close to employment is available for workers. An oversupply of jobs in the Bay Area and other forces have in the recent past resulted in increased housing demand in San Joaquin County with a concomitant increase in long-distance commuting between San Joaquin County and the Bay Area over Altamont Pass. To the extent that the housing provided by the proposed Plan would reduce the need for people who work in the Livermore area to live in San Joaquin County, overall vehicle miles traveled (VMT) and emissions within the Bay Area and San Joaquin Valley air basins would be reduced. This reduction, although not easily quantified, would offset a portion of the new VMT and emissions resulting from the proposed project.

Policy 4.8.1 Vehicular Travel. The document *Design Strategies for Encouraging Alternatives to Auto Use Through Local Development Review* shall be used in the design and layout of individual developments, including but not limited to the following:

- a) Provide pedestrian and bicycle accessways to transit stops where a street connection is not possible in developments along existing and future transit routes
- b) For commercial uses, coordinate building placement, orientation and design in order to create pedestrian-oriented spaces and pathways
- c) For commercial uses, orient buildings and main entrances towards streets with transit facilities
- d) Minimize large setbacks for retail, employment and multi-family land uses, particularly on streets with transit facilities
- e) Provide attractive shelters, benches, landscaping and lighting at transit boarding points to protect riders from the weather, buffer them from abutting streets, and promote safety
- f) Provide secure and conveniently located bicycle parking and storage in commercial, public and multi-family residential developments

Policy 4.8.2 Area Source Emissions. Residential-related area source emissions, particularly those from residential wood burning, should be minimized.

- a) Residential garages should provide spare capacity in main electrical circuit breaker boxes to allow homeowners to add wiring to allow the re-charging of electrically-powered vehicles
- b) No wood-burning open fireplaces shall be allowed. Use of natural-gas fireplaces is encouraged. Only EPA-certified woodstoves, pellet stoves or fireplace inserts are otherwise permitted
- c) Outdoor electrical outlets shall be provided at residences to allow use of electrical lawn and landscape maintenance equipment
- d) Natural gas outlets shall be provided in residential backyards to allow use of natural gas-fired barbecues

CONSTRUCTION-RELATED IMPACTS

Policy 4.8.3 Construction Dust and Emissions. All construction activities shall utilize the feasible control measures for construction emissions of PM10 appropriate to the size and nature of the construction area, as recommended by the BAAQMD's CEQA Guidelines.

- a) For all construction sites the following dust control measures shall be implemented by construction contractors during all construction phases:
 - i. Water all active construction areas at least twice daily
 - ii. Pave, apply water as necessary to control dust, or apply (non-toxic) soil stabilizers on all unpaved access roads, parking areas and staging areas at construction sites
 - iii. Sweep as needed to control dust (with water sweepers) on all paved access roads, parking areas and staging areas at construction sites
 - iv. Sweep streets daily (with water sweepers) if visible soil material is carried onto adjacent public streets
- b) At all construction sites greater than 4 acres in area, the following enhanced controls shall be implemented in addition to the measures identified above:
 - i. Hydroseed or apply (non-toxic) soil stabilizers to inactive construction areas (previously graded areas inactive for ten days or more
 - ii. Enclose, cover, water as needed or apply (non-toxic) soil binders to exposed stockpiles (dirt, sand, etc.)
 - iii. Limit traffic speeds on unpaved roads to 15 mph
 - iv. Install sandbags or other erosion control measures to prevent silt runoff to public roadways
 - v. Replant vegetation in disturbed areas as quickly as possible

CHAPTER FIVE:

COMMUNITY SERVICES & FACILITIES

INTRODUCTION

This chapter addresses facilities to support the residential population of North Livermore, including parks and recreation, open space lands, schools, and public safety. Additional provisions may be found as follows:

- Chapter Two: Land Use
- Chapter Three: Transportation & Circulation (Trails)
- Chapter Seven: Community Design (Bicycle and Pedestrian Facilities)
- Chapter Eight: Implementation (Land dedication requirements for parks, schools and creek corridors)

5.1 PARKS & RECREATION

The Livermore Area Recreation and Parks District (LARPD) provides services to all community and local park and recreation facilities. The *LARPD Master Plan* establishes standards for parks acreage and active sports facilities. The City of Livermore is responsible for the construction and maintenance of facilities within public street rights of way, which includes bike lanes, bike routes, multi-use trails and landscaping.

The East Bay Regional Parks and Recreation District (EBRPD) is responsible for 53 regional parks, recreation areas, wilderness areas, shorelines, environmental reserves, land banks inter-connecting regional trails within Alameda and Contra Costa Counties. Existing regional parks within the Plan Area vicinity include Del Valle Regional Park (a 3,900 acre recreation area surrounding Del Valle Reservoir), Shadow Cliffs Regional Recreation Area (a 249-acre park developed around a former gravel pit), and the newly acquired Brushy Peak Regional Park and Open Space Preserve. Generally, regional parks, open space and trails connecting them, including connections to North Livermore fall within the responsibility of EBRPD.

Parks and Recreation Goals

- A. To provide a hierarchy of community parks, neighborhood parks and linked open space lands in a cohesive park system with a diversity of recreational opportunities accessible to all Livermore residents**
- B. To locate community-wide facilities including the community park and high school in a location that is easily accessible by all Livermore residents**

- C. To locate neighborhood facilities (neighborhood parks and elementary schools) generally central to each neighborhood so that such facilities are within approximately one half-mile or less of a majority of neighborhood residents**
- D. To provide a smooth transition from higher density urban uses in the Village Core to rural uses north of the Greenbelt**
- E. To locate and design the community park to provide a connection between the Cayetano Creek and East Creek/Arroyo Las Positas corridors and the rural/open space lands further to the east and west**
- F. To integrate open space in North Livermore into the regional open space network**

NEIGHBORHOOD & COMMUNITY PARK POLICIES

Policy 5.1.1 Priorities for Parks. Parks shall provide a public focus, and shall be located next to public streets, residential areas, schools, and retail uses. Parks shall not be formed from residual areas, used as buffers to surrounding development, or used to separate buildings from streets. Public parks shall be designed for both active and passive uses.

Policy 5.1.2 Active Use Park Sites. Neighborhood and community parks within North Livermore that are to be dedicated to LARPD shall be defined by the Land Use Plan (Figure 2.1) and the Urban Area Parks Program. The size and configuration of reserved park sites shall generally be as shown on the Parks and Open Space Plan, including:

- a) A total of twenty-one (21) neighborhood park sites, each being a minimum of 1.5 to 8.5 acres, with joint-use neighborhood parks adjacent to elementary schools of 8 to 10 acres in size, for a total of 86 acres, and
- b) A large community park comprised of four major areas totaling 80 acres, located in the center of the community, connecting east-west across the entire valley from the high school and Environmental Park on the east to hillside lands on the west. Additionally, two sites (two acres each) within the Village Core, referred to as the Village Commons, provide areas of urban open space within the mixed use center of the community.

Policy 5.1.3 Neighborhood and Community Park Sites/Improvements.

Development within the Urban Area shall be responsible for park site dedication pursuant to Policy 5.1.2, and/or contribute its proportionate share of park facility improvements. This responsibility will be met by dedicating park sites, paying fees, special assessments or constructing park improvements to meet City and/or LARPD specifications as set forth in applicable law. Park sites may be dedicated and improvements may be implemented by project developers in lieu of, or as a credit against their park improvement costs. Payment for improvements to neighborhood and community parks shall be made at the time of approval of final maps.

Policy 5.1.4 Parks Master Plan. The City shall develop a Parks Master Plan for park improvements within the Urban Area.

- a) The Parks Master Plan shall be developed in coordination with the LARPD, the Livermore Valley Joint Unified School District (LVJUSD), property owners within the Plan Area and the community.
- b) The City shall consider entering into Memoranda of Understanding with the LARPD and LVJUSD clarifying ownership responsibilities.

Policy 5.1.5 Park Maintenance. The LARPD shall be responsible for maintenance of those parks that are dedicated to, and accepted by the LARPD, with financing for such maintenance being derived from property taxes. For any parks that are not accepted by LARPD for reasons of inconsistency with LARPD park size standards, the City shall be responsible for such maintenance, financed by development within the Urban Area.

Policy 5.1.6 Joint Use with Schools. Park lands shall be subject to the existing Joint Use Agreements between the LARPD and the Livermore Valley Joint Unified School District, consistent with current policies. Agreements shall ensure access to public park lands as well as access to school recreation facilities during non-school hours.

NEIGHBORHOOD PARKS

As indicated by Figure 5.1: Parks and Open Space Plan, and Table 5.1: Parks within the Specific Plan, park system for North Livermore includes two distinct types of neighborhood parks: parks at least four acres in size (Type B) located along creek corridors and within neighborhoods, parks at least eight acres in size, located adjacent to elementary schools (Type C), and smaller parks that serve as neighborhood focal points in areas more distant from major open spaces (Type A). Figures 5.2: Neighborhood Park and Elementary School Prototype and Figure 5.3: Smaller Neighborhood Park Prototypes provide prototypical layouts and programming.

Policy 5.1.8 Neighborhood Parks. Neighborhood Parks shall be located and designed according to the following.

- a) Eighty-six acres of land is designated for neighborhood parks within the Urban Area. These parks shall be developed in the locations indicated by Figure 2.1: Land Use Plan and Figure 5.1: Parks and Open Space Plan.
- b) Of this acreage, 66 acres of neighborhood parks are park facilities that are at least four acres in size. Five of these larger parks, between eight and 10 acres in size, are located adjacent to elementary schools, and shall be operated through joint use agreements between the LARPD and School District. Other larger parks are located flanking Cayetano Creek, north of the FCC site and within the neighborhood north of Las Positas College.
- c) The remaining 20 acres of neighborhood parks consist of 12 park facilities between 1.5 and four acres in size, located at focal points in the center of residential neighborhoods.
- d) Neighborhood parks shall sited and designed to maximize their visibility along streets and thereby enhance the public right-of-way and neighborhood character. These parks are generally located adjacent to or at the terminus of Connector streets to increase visibility and access (see Figure 5.3 and Figure 7.12: Streets Terminating at Parks and Public Uses).
- e) Parks shall generally have street frontage on all sides, except where abutting open space or public uses. Street frontage may include connector or local streets, as appropriate. Park street frontage may be eliminated if adequate public access is provided from adjacent uses.
- f) In order to encourage variety between residential neighborhoods the small neighborhood focal parks may each be designed with a different character, landscape treatments and uses.

- g) Larger neighborhood parks (Types B and C) shall generally include the following facilities:
- i. Tot lot or children's play areas with adjacent seating
 - ii. Picnic area with shade shelter or shade trees
 - iii. Multi-purpose turf space large enough for pick-up softball game, T-ball or recreational soccer (may be shared with school; overlapping fields acceptable)
 - iv. Multi-use court for tennis, basketball, volleyball, handball (may be shared with or located at school)
 - v. Bike racks, water fountains, and trash containers
 - vi. Landscape treatment consistent with local neighborhood streets and other open space elements
 - vii. Restrooms to be shared with school if possible
- h) Optional elements at larger neighborhood parks may include:
- i. Active uses such as badminton, bocce ball, croquet, horseshoes, or racquetball
 - ii. Flower gardens or community gardens
 - iii. Game/craft areas for chess or other activities
 - iv. Support facilities such as pavilions or storage sheds
 - v. Swimming pools
- i) Smaller neighborhood parks shall be designed and maintained to provide for active and passive uses. Examples of active uses are free play areas for field games, court games such as basketball or tennis, exercise courses, and tot lots. Examples of passive uses are picnicking, crafts, and landscaped areas such as gardens or tree allees and arbors. The parks may also provide support facilities such as picnic structures, seating, shade pavilions, and storage sheds as well as provide locations for relocation/preservation of cultural artifacts.
- j) Parking for neighborhood parks shall be provided on nearby streets or at adjacent schools.

Table 5.1: Parks within the Specific Plan

NEIGHBORHOOD PARKS				
TYPE	SIZE (ac)	#	TOTAL (ac)	LOCATION
A Smaller Parks	1.5 to 4	12	20	Within Neighborhoods
B Larger Parks	4 to 8.5	4	23	Along Cayetano Creek, north of Los Positas College, north of FCC
C Parks at Schools	8 to 10	5	43	At Elementary Schools
Subtotal		22	86	(2.5 acres/1,000 people)
COMMUNITY PARKS				
D (Major Areas)	15 to 22	-	80	Jensen Road to Las Colinas, through Village Core
E Village Commons	2	2	4	Two Sites within Village Core East and West of North Livermore Ave.
Subtotal		-	84	(2.5 acres/1,000 people)
TOTAL			170	(5.0 acres/1,000 people)

Park acreage per 1,000 people is derived from the City of Livermore park mitigation requirement pursuant to the Quimby Act of 1.37 acres per 100 lots. With a total of 12,500 "lots" within the Urban Area, the total park dedication requirement would be 1.37 acres x 125 or 170 acres.

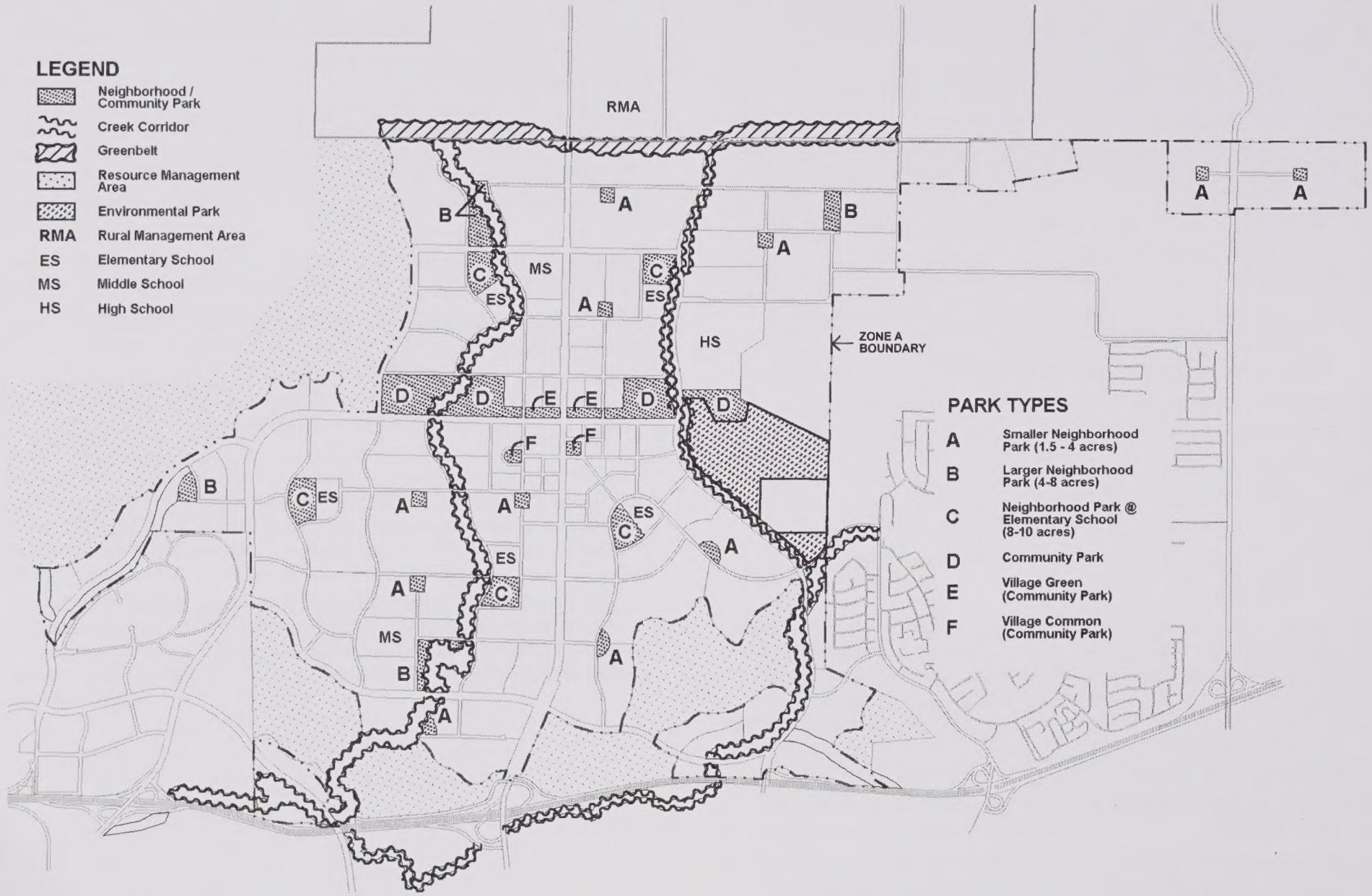


FIGURE 5.1: PARKS AND OPEN SPACE PLAN

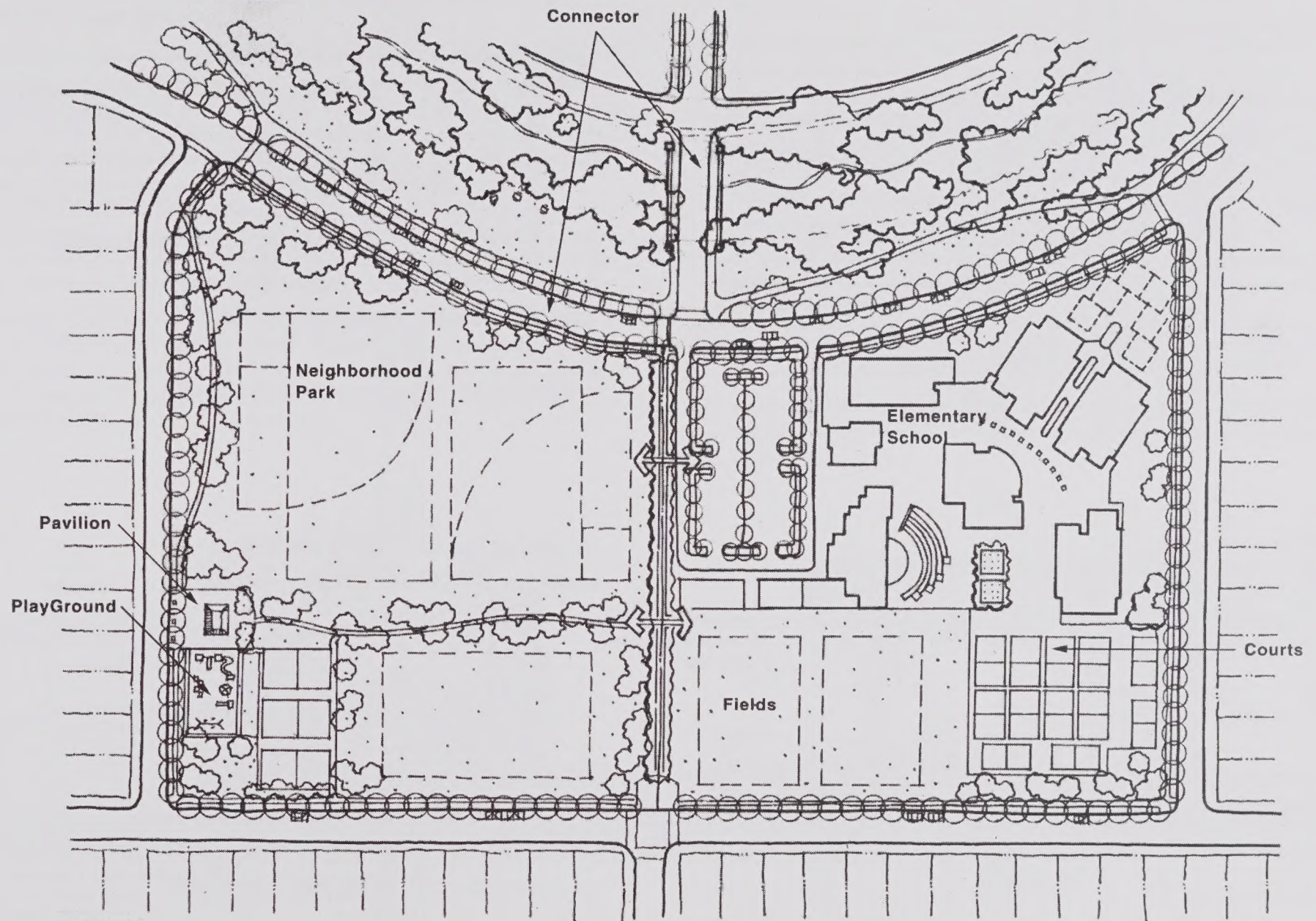


FIGURE 5.2: NEIGHBORHOOD PARK AND ELEMENTARY SCHOOL PROTOTYPE

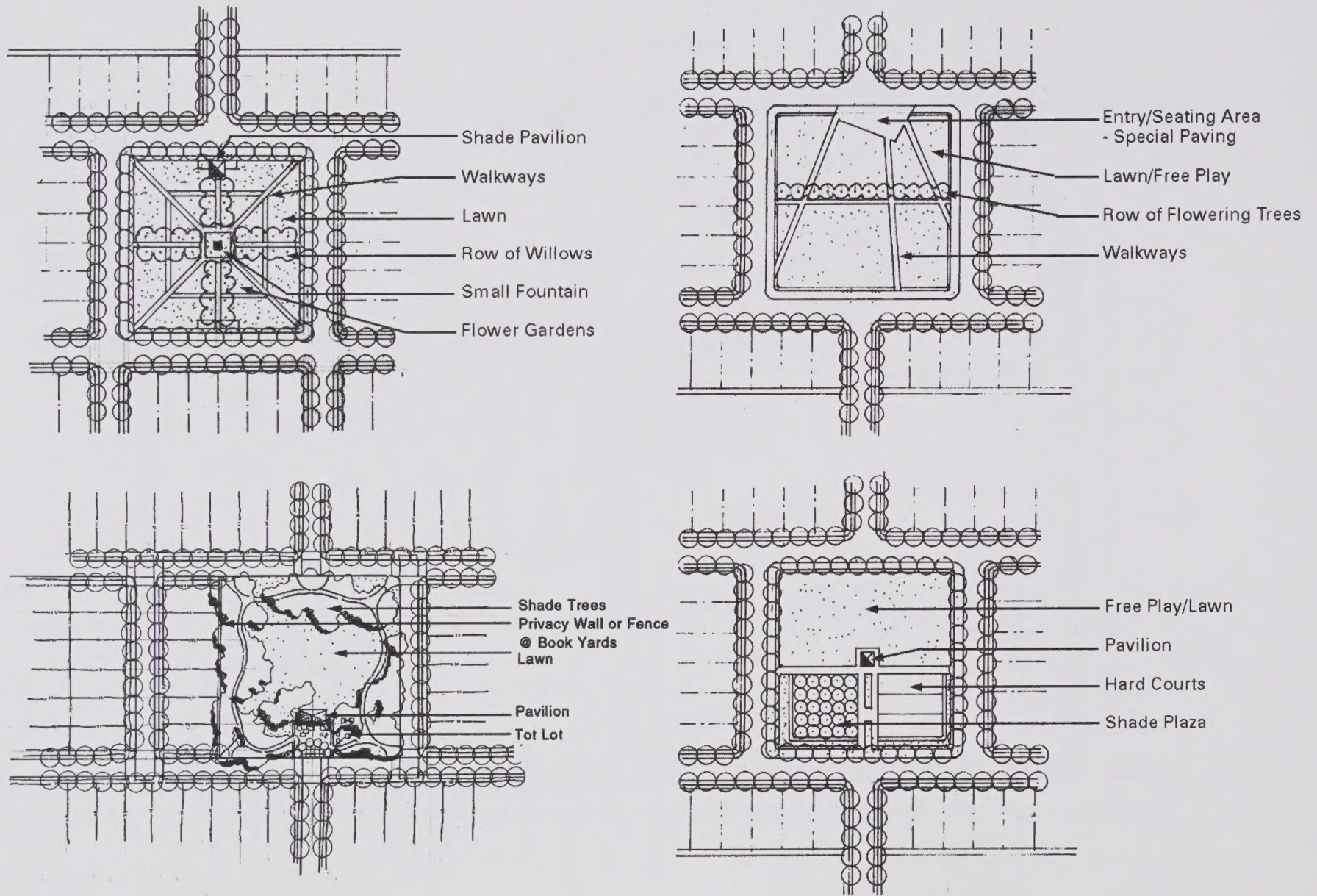


FIGURE 5.3: SMALLER NEIGHBORHOOD PARK PROTOTYPES

COMMUNITY PARKS

Policy 5.1.9 Community Parks. Community Parks shall be located and designed according to the following.

- a) The central community park shall incorporate 80 acres of community park lands, located in an east-west configuration traversing the entire community along Hartman Road. This park (comprised of six adjacent sites, connects the western hillside area, the Village Core, the two creek corridors, and the high school. A portion of this park, referred to as the Village Greens (see Figure 5.1) shall be designed as a traditional civic park, with shaded walkways, active and passive use areas, fountains, special lighting or other similar pedestrian elements. These areas shall be designed to accommodate a variety of uses and events, and shall incorporate the Village Core theme tree, special lighting, paving and other common elements.
- b) Additionally, community park lands shall include two sites totaling four acres within the Village Core, referred to as the Village Commons, with one site located east of and adjacent to North Livermore Avenue, and one site located two blocks west of North Livermore Avenue at the end of 'Market Street' (see Figure 2.6: Village Core Land Use Plan).
- c) Programming of the community park shall address the needs of the entire community, including families, singles, youths, seniors, disabled residents, and children.
- d) The community park shall include both active and passive uses. Active area facilities shall include ballfields, swimming facilities, par courses, courts (hard-surfaced, sand or turf), trails, playgrounds, support structures such as restrooms and concession stands, and off-street parking. Passive areas will provide picnic areas, amphitheaters, gardens, and special features such as outdoor art, fountains, or other water elements. The community park may also accommodate a community center and facilities for parks maintenance (e.g., an Intergovernmental Maintenance Services Facility).
- e) A 12-acre portion of the community park shall be located immediately adjacent to the high school and facilitate joint use of recreational facilities with the high school.
- f) All sides of community parks shall front on public streets except where adjacent to creek corridors and the high school.
- g) Wherever possible, parking facilities shall be located so as to provide shared-use opportunities with other public facilities such as transit, libraries, and schools.

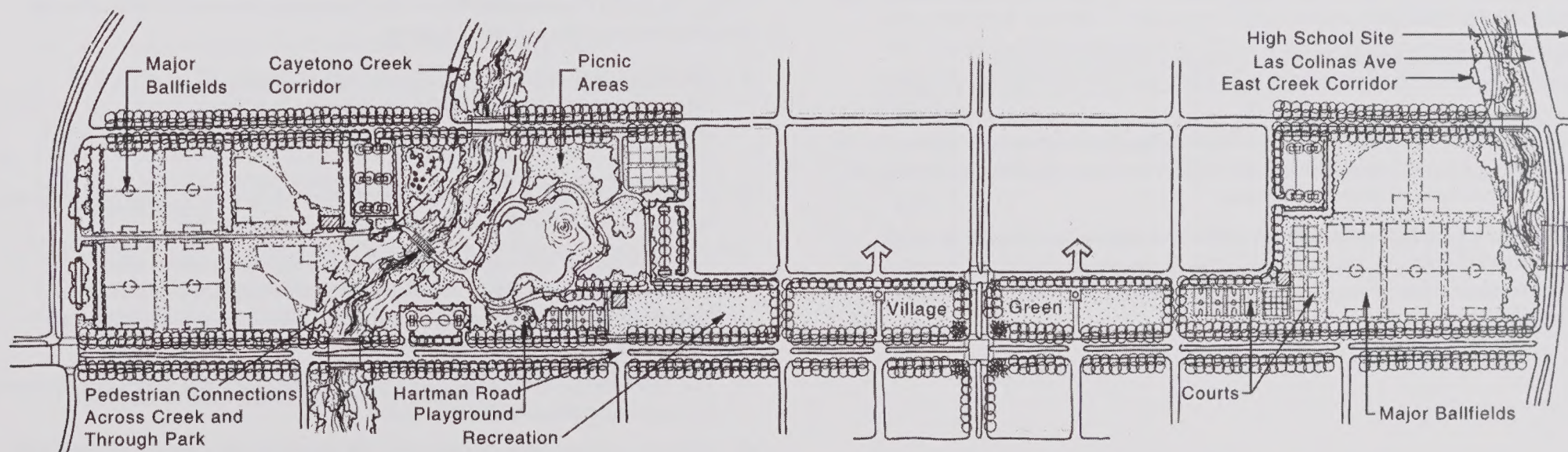


FIGURE 5.4: COMMUNITY PARK CONCEPT

OTHER OPEN SPACE LANDS

The *LARPD Master Plan* establishes a target of three acres of special use parklands for each 1,000 residents and a total of 7 acres of parkland for each 1,000 residents. The park size and population served vary according to the park's specific uses. Special use facilities typically include historic sites, athletic complexes, senior centers, or environmental land reserves.

In North Livermore, a total of 180 acres of open space lands (approximately 5.5 acres per 1000 people) within the urban area would qualify as special use park, including portions of the creek corridors, the May School Road Greenbelt within the Urban Area, and the Environmental Park. The Specific Plan thereby provides opportunities for special use parks at a ratio in excess of LARPD requirements.

Policy 5.1.10: Other Open Space Lands. The total area and size of other open space lands within the urban area which qualify as Special Use Park shall be defined by the Urban Area Parks Program and the Land Use Plan. The size and configuration of these lands shall generally be as shown on the Parks and Open Space Plan, including:

- a) A total of approximately 54 acres of the creek corridors flanking multi-use trails
- b) 28 acres of the May School Road Greenbelt within the Urban Areas
- e) The 94-acre Environmental Park adjacent to the Natural Communities Reserve (EMAX)

Policy 5.1.11 Creek Linear Parks. A portion of the creek corridors (approximately 54 acres), including the multi-use trail, shall qualify as Special Use Park. The areas may vary in width, with portions consisting of irrigated parkland, similar in treatment to other neighborhood and community parks. Remaining portions may be utilized for NPDES water quality treatment purposes in conjunction with other recreation uses.

Policy 5.1.12 May School Road Greenbelt Corridor. A portion of the May School Road Greenbelt (28 acres) shall qualify as Special Use Park, including the entire greenbelt south of the May School Road Urban/Rural Boundary (see Section 5.2.15).

Table 5.2: Open Space Lands

TYPE	TOTAL	LOCATION
Greenbelt	28	May School Road Greenbelt (South of May School Road)*
Creek Trail Corridor	54	Multi-use Path/Corridor** within Creek Corridors.
Environmental Park	94	Adjacent to Natural Communities Reserve (EMAX)
Subtotal	176	

* Includes the entire May School Road greenbelt south of the Urban Growth Boundary

** Includes a corridor along East Creek, and portions of Arroyo Las Positas flanking the multi-use paths

Policy 5.1.13 Environmental Park. The Environmental Park shall be located and designed according to the following.

- a) The Environmental Park shall include approximately 94 acres located adjacent to the existing Natural Communities Reserve (EMAX) and the FCC site, immediately south of the Community Park and High School (Figure 2.1).
- b) All uses within the Environmental Park shall be consistent with preservation and enhancement of the bird's beak habitat and ecosystem.
- c) Facilities may include interpretive trails and signage, public restrooms, informal picnic tables, parking, and interpretive displays explaining the hydrology, geology, and biology of the bird's beak ecosystem. A visitors center may be part of the park facilities.
- d) The Environmental Park shall be accessible to school and community groups for environmental education purposes.
- e) Utilities, trails or other facilities may be located in the area if consistent with environmental objectives.

CREEK CORRIDORS

Creek corridors are an important component of the park and open space network in North Livermore. These corridors provide multiple functions of storm drainage, wildlife and riparian habitat, and recreation including continuous pedestrian/bicycle trails.

Further information on the creek corridors may be found below and in:

- Chapter Four: Conservation & Resource Management
- Chapter Six: Storm Drainage
- Chapter Seven: Community Design

Policy 5.1.14 Creek Corridors. Creek corridors within the Urban Area shall be located and designed according to the following.

- a) Creek corridors shall be as shown on Figure 5.1: Parks and Open Space Plan, comprised of approximately 212 acres and shall include:
 - i. The existing Cayetano Creek west of North Livermore Avenue;
 - ii. A new corridor east of North Livermore Avenue referred to as “East Creek”. East Creek will flow into Arroyo Las Positas between Altamont Creek and Arroyo Seco in the southern portion of the Plan Area (see Figure 5.6);
 - iii. Portions of Arroyo Las Positas and Arroyo Seco;
 - iv. A portion of Collier Creek near Las Positas College; and
 - v. An existing drainage/riparian corridor along the north boundary of Las Positas College, adjacent to Murray Ranch Road.
- b) The creek corridors shall be designed to meander north-south through the residential neighborhoods, creating opportunities for trail connections and recreational access.
- c) The Cayetano Creek corridor shall be as shown by Figure 5.1 and Figure 5.6.
 - i. From the May School Road Buffer to a point approximately 1,200 feet north of Calle Las Positas the corridor shall average 250 feet in width, shall maintain a minimum width of 200 feet and maintain a minimum 50 foot dimension from each side of the corridor to the top of bank of the 100 year storm channel (including freeboard).
 - ii. South of this point to Arroyo Las Positas, the corridor shall maintain a 300 foot average, a 200 foot minimum, and a minimum of 50 feet between the 100 year channel high bank and each side of the corridor.
- d) The centerline of Cayetano Creek shall be realigned in a portion of the corridor where the existing creek has been channelized during previous agricultural operations. The proposed alignment will introduce a more varied, natural-appearing and functioning riparian corridor.
- e) The East Creek corridor shall be a minimum of 150 feet in width except at locations adjacent to the Environmental Park and existing wetlands where adjustments may be permitted to protect existing natural resources. The corridor shall:
 - i. Maintain a minimum of 50 feet between the 100 year storm channel high bank and the edge residential development
 - ii. Maintain a minimum of 75 feet (total for both sides) between the edge of the 100 year storm channel and the edges of the corridor
- f) Except where the creek corridors abut open space or public uses, one side of the creek corridor shall abut public street right of way (arterial, connector or local, as appropriate). To the extent feasible, other areas should provide local street and cul-de-sac frontage adjacent to the creek corridor.
- g) Arterial street crossings shall provide for pedestrian grade-separated crossing along the creek corridor. Pathways in these areas may be located below the 100 year storm level, but above the 15 year storm level unless silt berms or other barriers are provided. At-grade pedestrian connections shall also be provided.
- h) In addition to street crossings, pedestrian bridges across the creek channels shall be provided to connect residential areas with schools and parks (see Figure 3.3).
- i) Except for the linear park portion of the corridor, other landscape areas shall utilize native and/or drought tolerant plant material.

- j) As shown on Figures 5.5 and 5.6, and described on Table 7.5: Plant List, creek corridors shall generally include the following elements and treatments.
 - i. A 10-foot wide, asphalt multi-use path that may meander throughout the corridor, above the low-flow channel.
 - ii. An 18-foot wide, gravel maintenance bench including an equestrian trail, generally located on the opposite side from the multi-use trail, located at or above the 100-year flood level. As appropriate, the multi-use path or equestrian trail may be located within the 18 foot maintenance bench.
 - iii. A 20-foot minimum buffer between the drainage channel and any adjacent residential areas. Buffers shall be planted with trees, shrubs and groundcovers. Where possible, berms or grade differences between residential lots and the pedestrian pathways should be incorporated.
 - iv. The landscape treatment of the linear park shall include tree species to match the primary drainage channel, irrigated lawn, and groundcovers and shrubs on a low berm separating the linear park from the drainage channel.
 - v. Landscaping within the drainage channel shall include willows and grasses in the low-flow channel; cottonwood species, California sycamore and oak species located on channel sides.
- k) Prior to development of drainage corridors, the City shall agree with Zone 7 regarding the maintenance responsibilities of flood control portions of the Corridors

MAY SCHOOL ROAD GREENBELT

The Land Use Plan (Figure 2.1) establishes a greenbelt to provide a transition between the Urban Area and the Zone B Rural Management Area and to facilitate pedestrian, bicycle and equestrian movement along the south edge of the greenbelt. The greenbelt includes a portion of the area originally allocated to the East Creek Corridor.

Policy 5.1.15 May School Road Greenbelt. The May School Road Greenbelt shall be designed and implemented according to the following:

- a) As shown by the Land Use Plan (Figure 2.1) and Figures 5.8 and 5.9, a greenbelt consisting of an open space buffer shall be installed and maintained flanking May School Road and the Urban / Rural boundary. The purpose of the greenbelt is to provide a transition between the Zone B Rural Management Area and the Urban Area, and to facilitate pedestrian, bicycle and equestrian movement along the edge of the community.

- b) The greenbelt shall vary in width as follows:
 - i. From North Livermore Avenue, west to the Urban Limit Line, the greenbelt shall average 400 feet in width: 50 feet south of the Urban/Rural Boundary and 350 feet north of the boundary;
 - ii. From North Livermore Avenue, east to the East Creek Corridor, the greenbelt shall be an average of 300 feet with a minimum of 200 feet, south of existing May School Road;
 - iii. From the East Creek Corridor, east to Dagnino Road, the greenbelt shall average 400 feet in width: 50 feet south of the Urban/Rural Boundary and 350 feet north of the boundary.
 - iv. For areas east of Dagnino Road adjacent to the Gun Club, Resource Management Area (RSM) and RVL, no green belt is required.
- c) Uses within the greenbelt shall be limited to open space, agricultural, and recreational or infrastructure uses including:
 - i. Planting of orchards, vineyards, or windrows and
 - ii. Public trails for pedestrian, bicyclists and equestrians;
 - iii. Construction of drainage channels or other utilities.
- d) An equestrian trail and a paved multi-use trail shall be provided along the along the south edge of the greenbelt, south of May School Road. Trails shall be designed to provide a safe and effective separation between equestrians and other users.
- e) Landscaping shall be agricultural in character and shall include:
 - i. Columnar tree windrow planting adjacent to the residential lots. A double row shall be planted flanking the multi-use path,
 - ii. Orchard trees or grape vines in area between windrows,
 - iii. Vines and/or shrubs along residential fences/walls,
 - iv. Rail fence (concrete) separating equestrian trail from orchard/vineyard area may also be included.
- f) Other uses within the Zone B portion of the May School Road Greenbelt may be permitted subject to County approval.

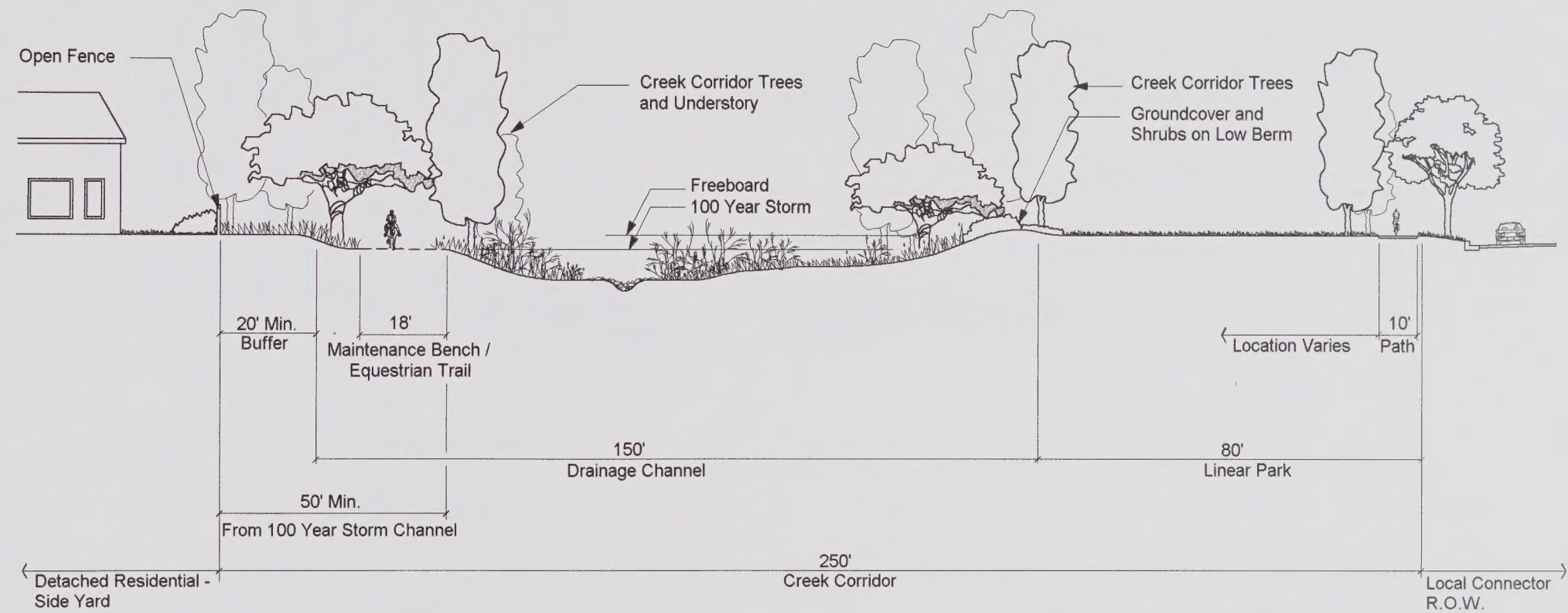


FIGURE 5.5: CAYETANO CREEK CORRIDOR

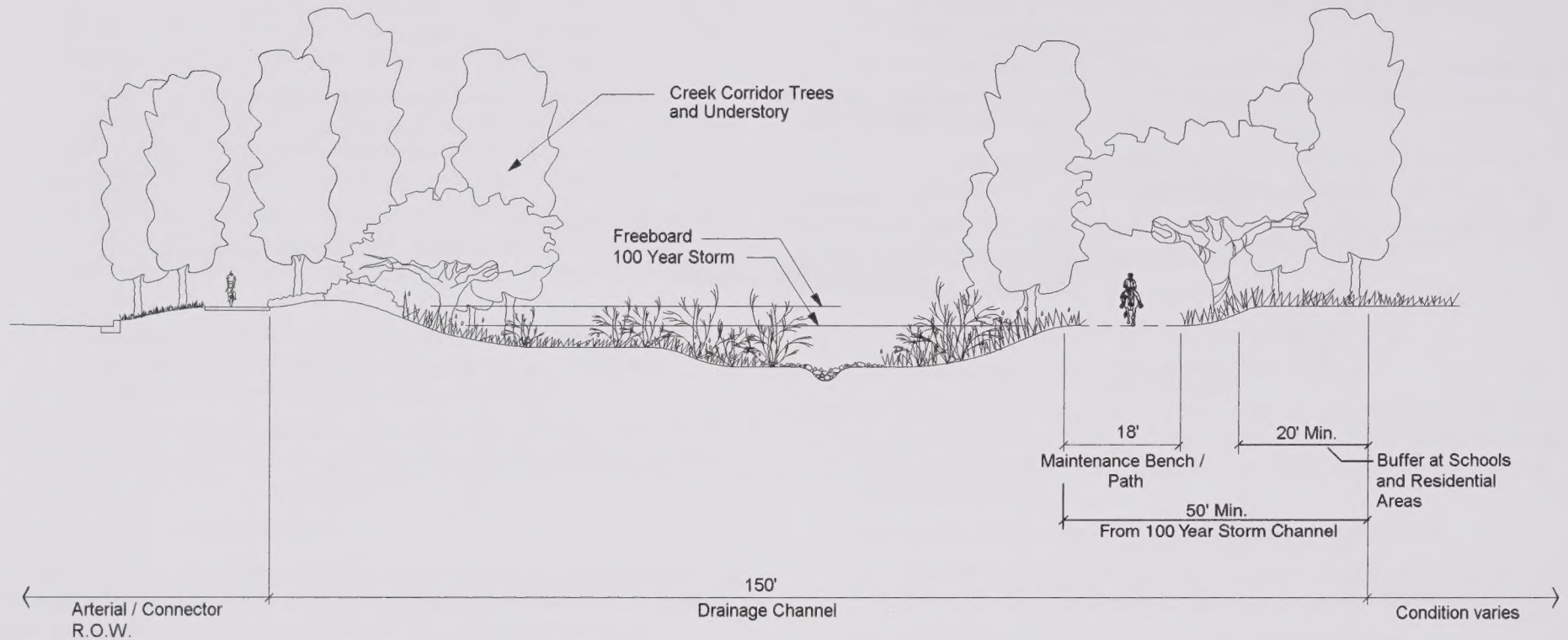


FIGURE 5.6: EAST CREEK CORRIDOR

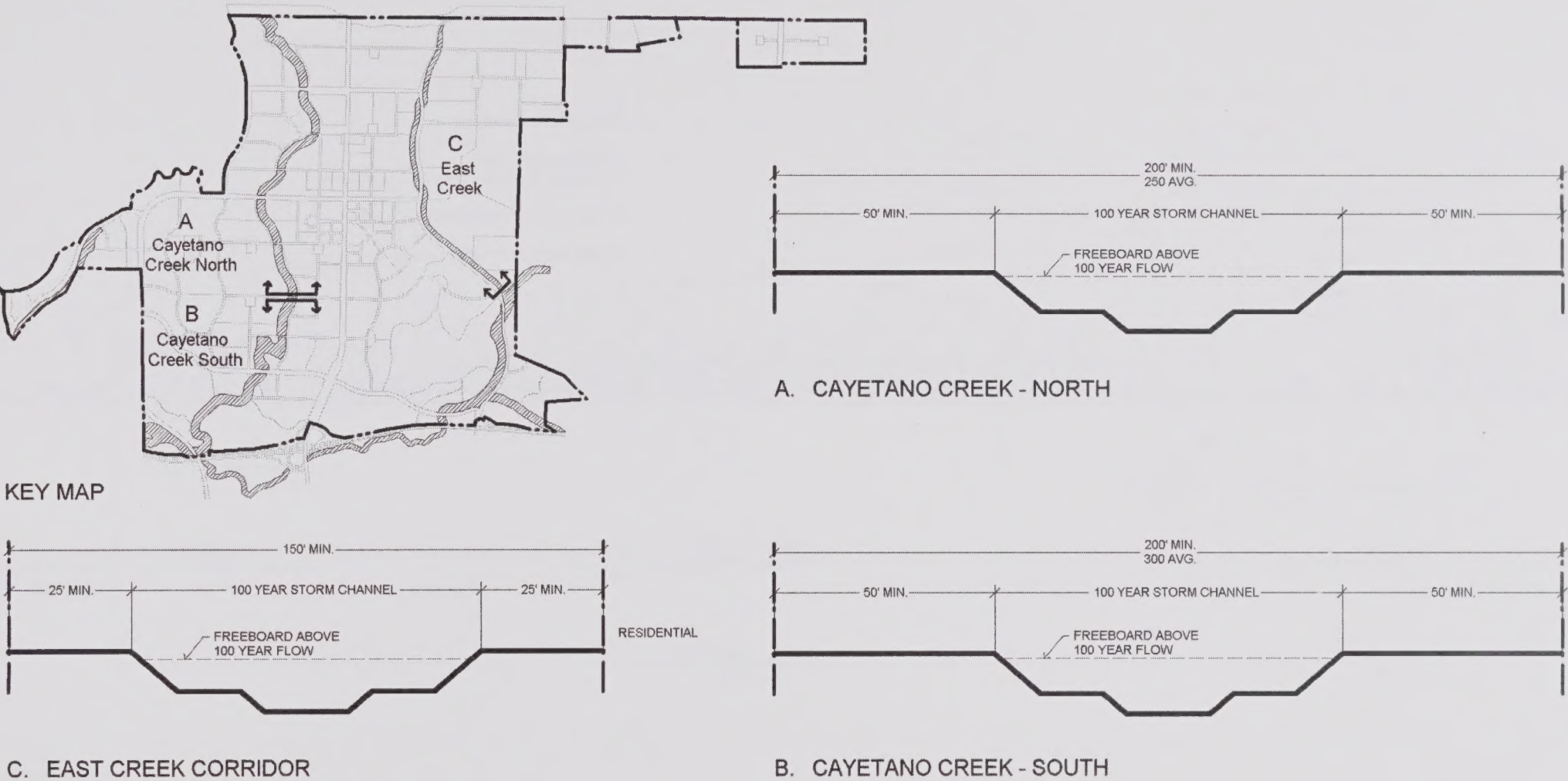


FIGURE 5.7: MINIMUM CREEK CORRIDOR DIMENSIONS

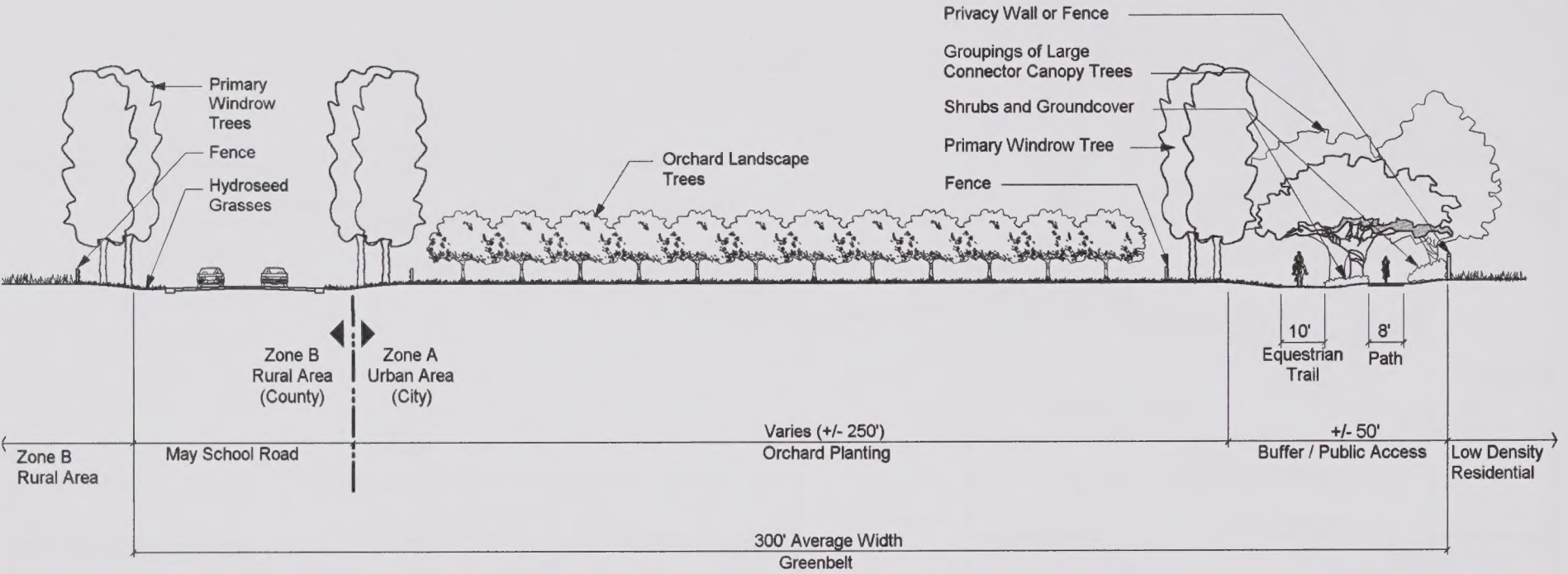


FIGURE 5.8: MAY SCHOOL ROAD GREENBELT – CENTRAL PORTION

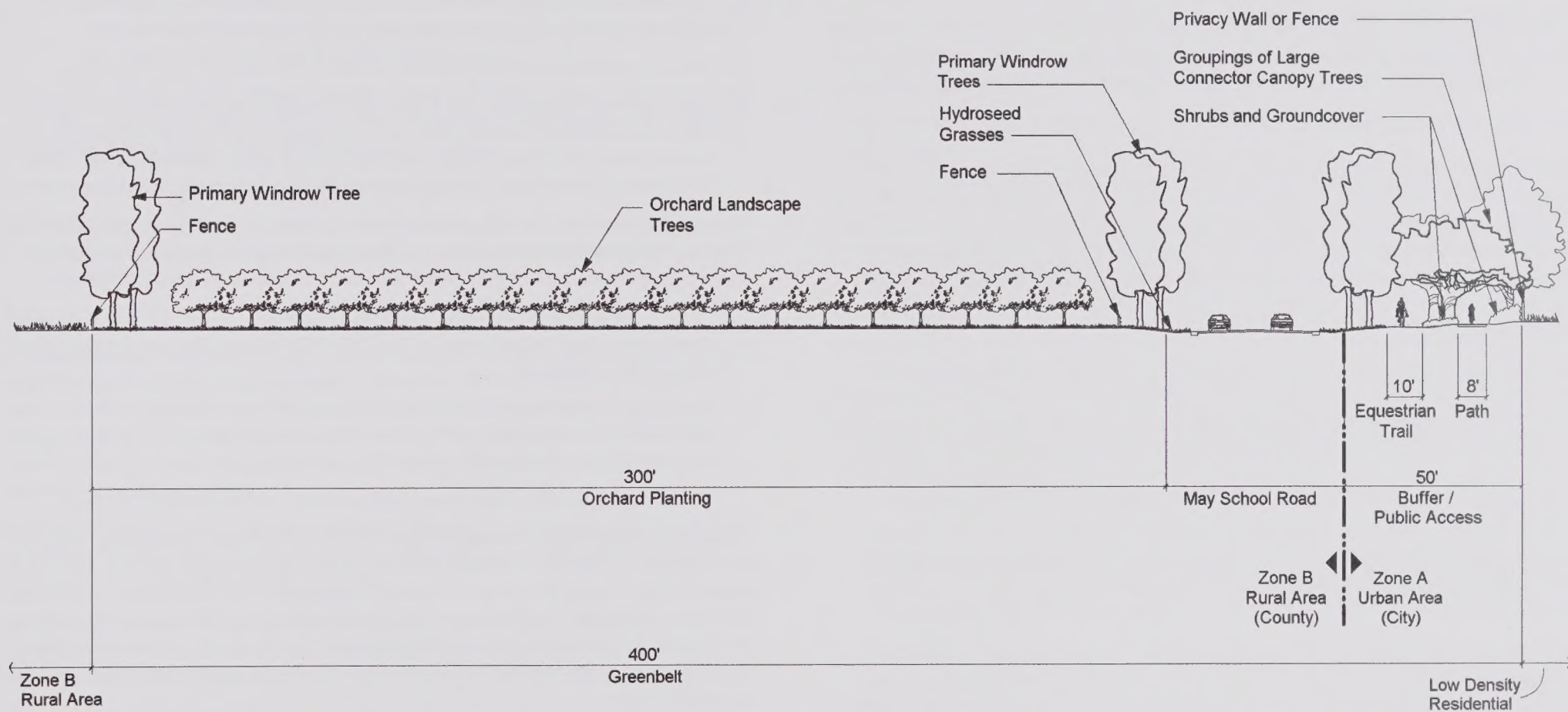


FIGURE 5.9: MAY SCHOOL ROAD GREENBELT – EAST AND WEST PORTION

PRIVATE RECREATION FACILITIES

Policy 5.1.16 Private Recreation. Private recreation facilities (pools, tennis courts, etc.) shall be encouraged as part of residential development but shall not count toward minimum public park requirements unless made available to all residents of Livermore.

5.2 EDUCATION AND COMMUNITY FACILITIES

Goal: To provide a full range of well designed school, childcare, and library facilities that are accessible to North Livermore residents.

EDUCATION FACILITIES

The Plan Area is within the jurisdiction of the Livermore Valley Joint Unified School District (LVJUSD). The *Draft Facilities Master Plan*, published by the LVJUSD in September 1996, addresses the LVJUSD's needs to provide facilities for its fast-growing enrollment. Consistent with LVJUSD policy, students will have the option of attending any school within the district. As school capacities fill up, students may need to over-flow to other schools within the district with available capacity.

The land use program for the Project provides for five new elementary school sites, two new middle school sites and one new high school site (see Figure 2.1). Each elementary school site is approximately 8 acres in size, generally flat or able to be graded such that 8 acres of net flat land results, regular in shape (generally square or rectangular), and located adjacent to a joint-use neighborhood park. These elementary school sites are evenly distributed such that all residential neighborhoods within the Urban Area can be served with an elementary school that is within walking distance from nearly every home. Similarly, two middle school sites, comprised of 20 acres each, are conveniently located for walking, one in the southern portion and one in the northern portion of the Urban Area.

The Plan also provides for a 58-acre high school site with 12 acres of adjacent joint use community park lands. This site is capable of accommodating a 3,000 student capacity high school, which is approximately 40% larger than required to serve students from within North Livermore. The high school site is located along two of the Project's major arterial roads (Las Colinas Avenue and Hartman Road), and is on the eastern edge of the Plan Area providing convenient access to the Springtown community.

See Figure 5.2: Neighborhood Park and Elementary School Prototype, Figure 5.10: Elementary School Prototypes, Figure 5.11: Middle School Prototype, and Figure 5.12: High School Concept for layout of school facilities.

Policy 5.2.1 School Sites. The size and configuration of reserved school sites shall generally be as shown on the Land Use Plan, including:

- a) Five (5) elementary school sites, each being a minimum of eight acres with adjacent joint-use neighborhood parks of eight to ten acres in size,
- b) Two (2) middle school sites being a minimum of 20 acres in size, and
- c) One (1) high school site with a size and configuration of a minimum of 58 acres, including an adjacent joint-use community park of a minimum of 12 acres in size. The High School shall be sized to serve residents of the North Livermore Urban Area, Springtown, and the rural portions of the Plan Area.

Volume II, Policy 5.2.2: School Site Reservation. Property owners within the Planning Area that have elementary, middle and/or high school sites designated on their properties shall reserve these sites for acquisition by LVJUSD to accommodate development of future school facilities.

- a) School sites may be dedicated to the LVJUSD in lieu of, or as a credit school impact fee obligations.
- b) School sites shall be offered for dedication at the time of tentative map application, and dedicated at the time of Final map approval for either: i. the residential units that trigger the need for the school, or
ii. the development of the parcel within which a school site is located.

Volume II, Policy 5.2.3: School Impact Fees/ Mitigation Agreement. New development within the Planning Area shall pay school impact fees to LVJUSD consistent with State law, or as voluntarily negotiated with the District. a) All new development within the Plan Area shall pay school impact fees consistent with the provisions of applicable state law (Proposition 1A). Generally, these impact fees are anticipated to provide for approximately 50% of the costs of required new school facilities.

- b) Pursuant to the establishment of development agreements between the City or the County and individual landowners, the City or the County should encourage landowners to enter into voluntary school impact mitigation agreements with the School District to ensure that adequate funding is available for the construction of school facilities when such facilities are needed.

- i. Under current state school funding requirements, developers may choose to advance to the School District the difference in costs between the state-mandated school impact fee and the actual "fair share" costs of providing necessary school facilities (generally, the remaining 50% of the costs of needed school facilities).
- ii. When and if the School District receives state funds for facilities constructed with funds advanced by developers, the District would then reimburse the developer on a pro-rata basis.

Volume II, Policy 5.2.4: School Surety. Prior to approval of any final map, the City shall ensure that: a) any improvements necessary for dedication of a finished school site to the School District has been guaranteed,

- b) applicable school impact fees have been secured, and
- c) the landowner has complied with all provisions of any school impact mitigation agreement and obtained a "will-serve" letter from the School District.

Volume II, Policy 5.2.5: Timing for School Facility Construction,

Elementary and Middle Schools. Construction of elementary and middle school facilities shall be initiated, consistent with current School District policy, to ensure that schools are ready for occupancy when sufficient student population exists to fill half of a school (about 325 elementary school students and 400 middle school students). In the interim, the LVJUSD shall accommodate the students at existing schools.

Volume II, Policy 5.2.6: Timing of High School Construction. The high school shall begin development during Phase 1 in order to serve students from North Livermore and other areas north of I-580.

Policy 5.2.7 School Construction/Dedication. The LVJUSD should allow developers to build schools for subsequent dedication to the District as a credit against the School Impact fees.

Policy 5.2.8 School District Site Approval. School mitigation agreements shall be submitted to the City at the time of tentative map approval that shall include appropriate provisions agreed to between the land owner and the School District concerning the precise location, size and configuration of any land dedicated for a new elementary, middle and/or high school site, together with improvement plans as necessary for delivery to the District of a finished school site.

Policy 5.2.9 Joint Use Parks. LVJUSD and LARPD shall extend their "Overall Agreement Regarding Joint-Use of Neighborhood and Community Parks Adjacent to School Sites" to apply within North Livermore, for purposes of organizing, promoting and conducting programs of community recreation, establishing systems of playgrounds and recreation, and acquiring, constructing, maintaining and operating recreational centers.

Policy 5.2.10 Safe School Routes. Safe and convenient bicycle and pedestrian routes for school children shall be provided throughout the Plan Area from residential areas to all elementary and middle schools.

Policy 5.2.11 School Design. Schools shall be located and designed according to the following.

- a) Schools shall be located as shown on the by Land Use Plan (see Figure 2.1).
- b) The LVJUSD shall establish a process for design review of school buildings within North Livermore. The objective shall be to provide attractive facilities which enhance the community setting while also meeting State standards for efficiency and educational programs.
- c) Elementary school sites shall abut public streets on a minimum of two sides in order to facilitate efficient parking, access, student drop-off and provide separation from residential uses.
- d) Schools/park sites shall be planned and designed as focal points within the community. Guidelines to achieve this include:
 - i. Neighborhoods shall be planned so that local and connector streets provide visual and physical access to schools and parks.
 - ii. Wherever possible, such streets shall terminate at the school/park site to provide a sense of arrival and to emphasize the importance of the school/park facility.
 - iii. Where streets terminate at a school site, school buildings shall be sited and designed to create a strong physical presence when viewed from the terminating roadway to the extent possible.
 - iv. School building complexes are important civic buildings, and school designs shall recognize this importance. Building design shall utilize high-quality materials and establish a distinctive character for North Livermore.

- e) Where possible, playfields and park areas shall be located adjacent to surrounding residential uses (preferably across a local street rather than adjacent to rear or side lot lines). Student drop-off and parking lots shall generally be oriented away from nearby homes, with additional landscape areas/buffers provided where such uses are required.
- f) School sites shall be designed to allow easy access by neighborhood residents to all areas open to the public. Schools with adjacent joint-use parks shall be designed to facilitate access to park areas.
- g) Fencing around school sites shall be used prudently. Where required, fencing shall be set back from public pathways.
- h) Except for core areas of school sites immediately adjacent to buildings, fencing at elementary and middle school sites shall generally be limited to six feet in height unless security or safety dictates otherwise.
- i) Schools sites shall be located a minimum of 150 feet from the high-pressure gas pipeline easement.
- j) Landscape design of school sites shall support the landscape treatments described in Chapter Seven and the Streetscape and Entries Master Landscape Plan.
- k) The high school shall be designed such that:
 - i. Joint use buildings or facilities such as theaters, gymnasiums, swimming pools, meeting rooms, or similar uses shall be located to facilitate access and visibility from Hartman Road, the community park and the Village Core.
 - ii. Student and staff parking areas are visually screened from the community. Parking is located to serve the high school and adjacent parklands.
 - iii. Multiple points of vehicular access is provided.
 - iv. Screening/buffering is provided between parking lots and nearby residential areas.
 - iv. Sports facilities, lighting or other structures are sited to not interfere with the FCC monitoring station operations.

CHILDCARE INCENTIVE PROGRAM

According to the Alameda County Childcare Planning Council, the County's child population is the second largest in the Bay Area and seventh overall in the State. The Planning Council also reports that over the next ten years birthrates within Alameda County are expected to increase by 9%. In addition, the report states that high land and development costs as well as low vacancy rates in commercial, office, and residential properties create obstacles for the development of new child care facilities or expansion of existing facilities.

With regard to specific childcare needs in the North Livermore Plan Area, Alameda County estimates that there will be approximately 2,000 children within the Plan Area in need of childcare. This figure is based upon the County's assumption that 6.15% of the total number of residents will be school age children without childcare.

In an effort to address the potential shortage of childcare facilities necessary for the residents of the North Livermore Plan Area, the following policies have been included.

Policy 5.2.12 Childcare Incentive Program. The City should create a Specific Plan Area Childcare Incentive Program to encourage the establishment of childcare facilities. The program may include provisions to allow the subsidy, dedication, and/or below market sale of retail space for use as a childcare facility(ies).

Policy 5.2.13 Childcare Facilities in Schools.

The City shall encourage the Livermore Valley Joint Unified School District to include space reserved for childcare facilities within its school facilities.

Policy 5.2.14 Childcare Facilities in Community Centers. The City shall encourage the designation of space within community centers for childcare facilities.

Policy 5.2.15 Streamlining the Entitlement Process. The City shall consider streamlining the applicable entitlement process necessary to authorize childcare facilities. Specifically, small childcare facilities for eight or fewer children shall be permitted in any R District as an accessory use to a residence. Large childcare facilities for nine to fourteen children shall be permitted in an R District with a Home Day Care Permit or Zoning Use Permit subject to all necessary findings (Ordinance Section 21.59) unless a Conditional Use Permit is specifically required the R District. Childcare facilities of any size shall be permitted as a matter of right within the Village Core Area.

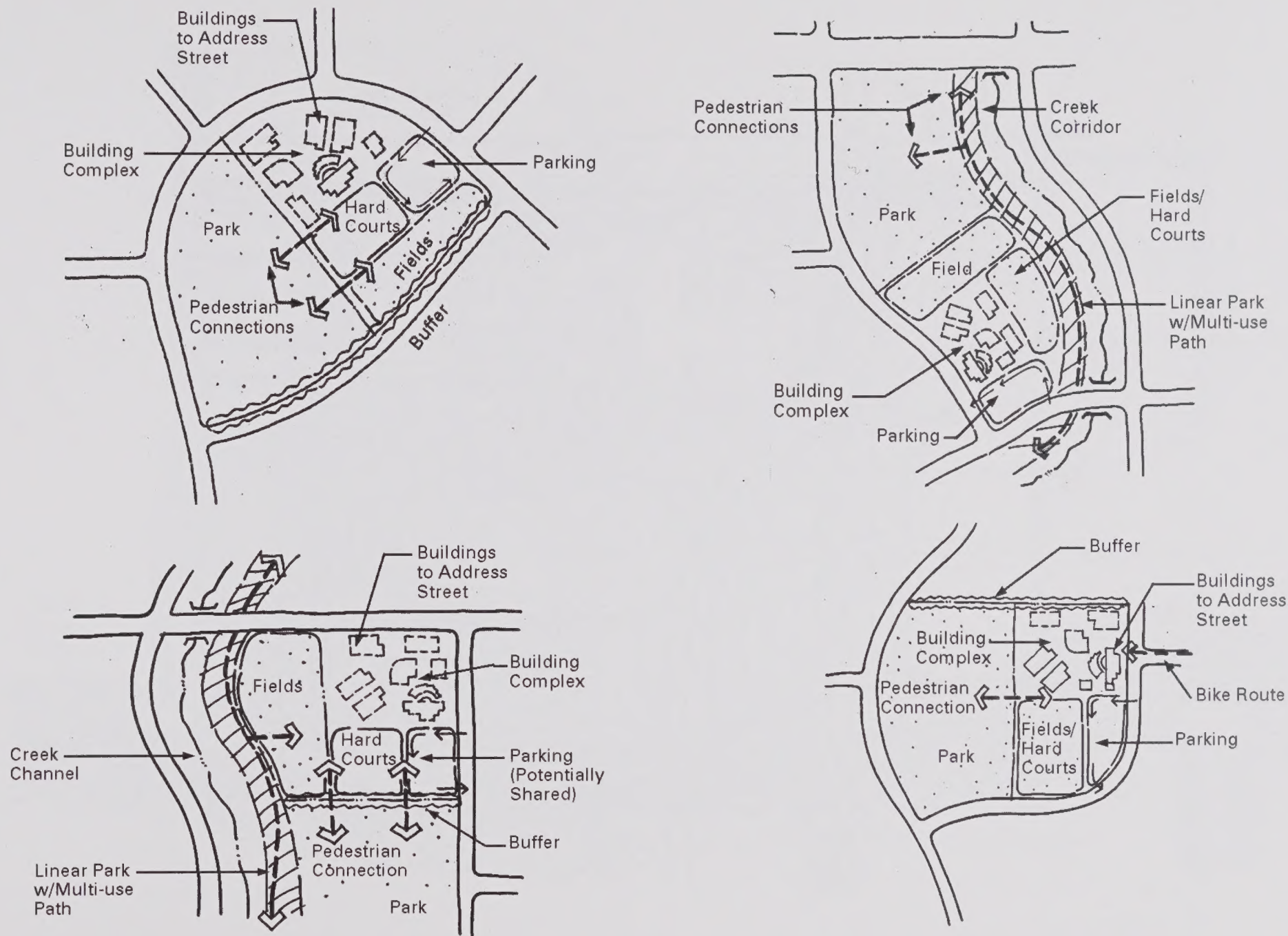


FIGURE 5.10: ELEMENTARY SCHOOL PROTOTYPES

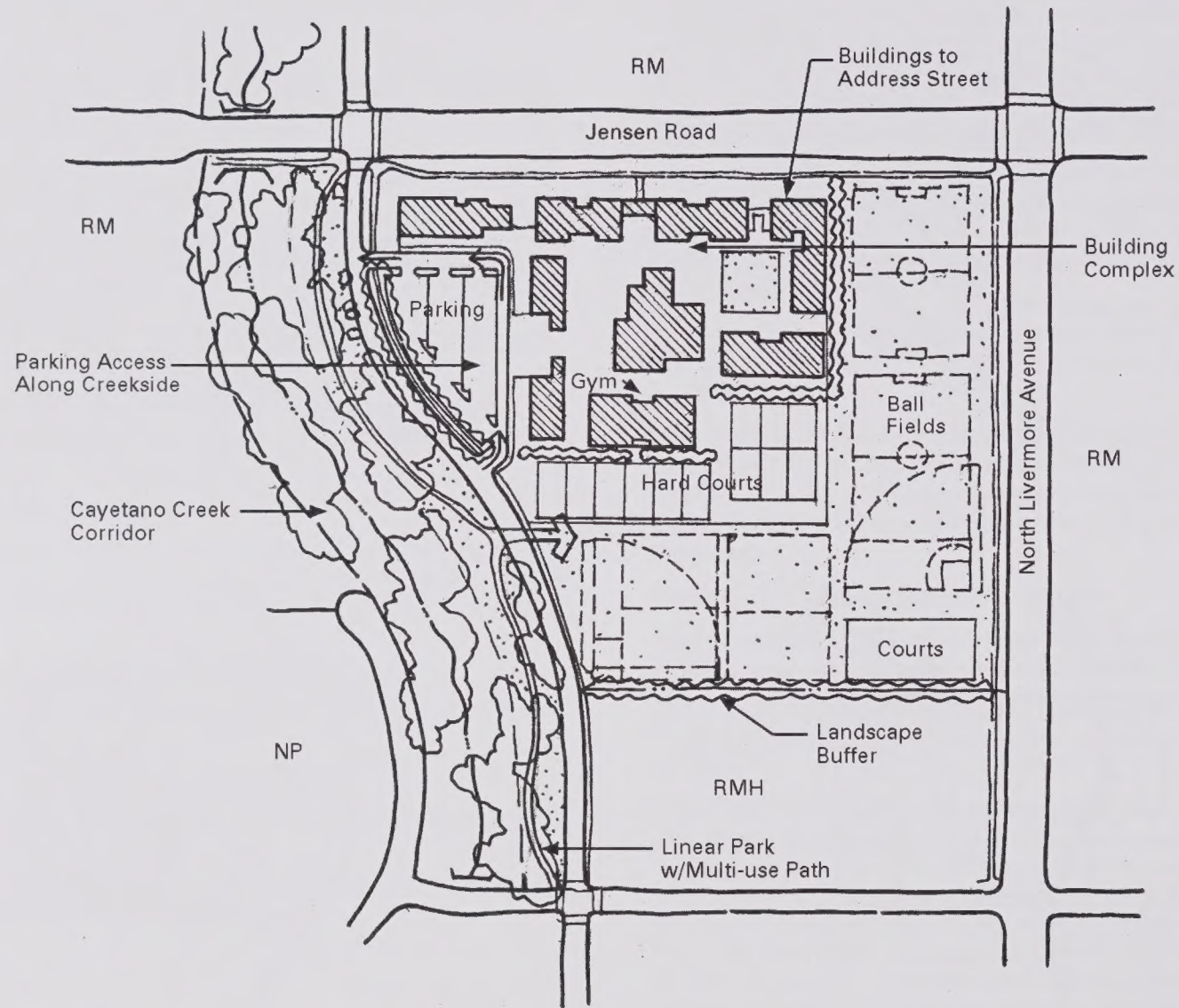


FIGURE 5.11: MIDDLE SCHOOL PROTOTYPE

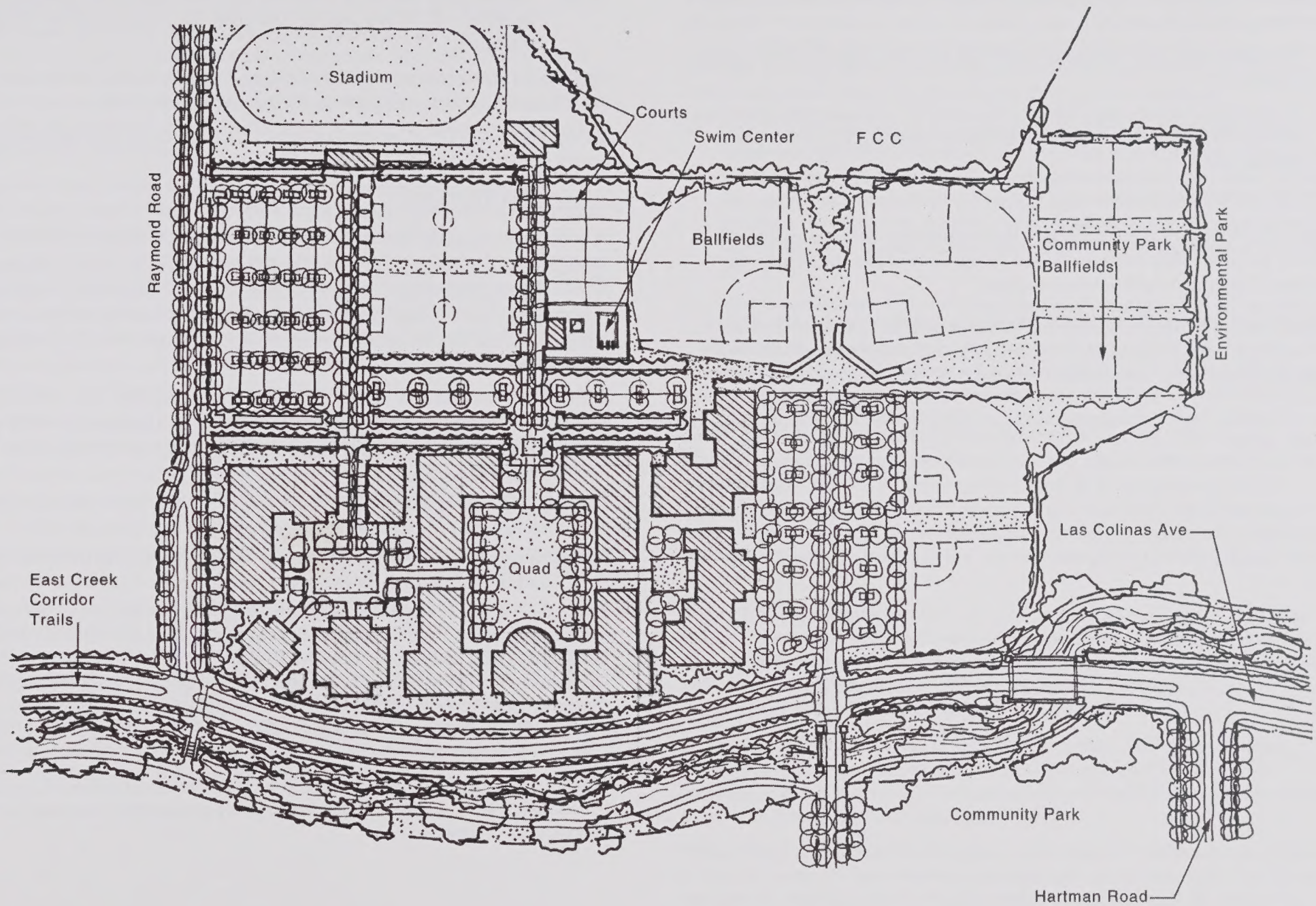


FIGURE 5.12: HIGH SCHOOL SITE PLAN CONCEPT

LIBRARY FACILITIES

Policy 5.2.16 Library Facilities. Library facilities shall be located and designed according to the following.

- a) A branch library shall be located in the Village Core, adjacent to the Village Commons.
- b) To the extent feasible, the library facility shall be combined with other civic uses including fire station, police sub-station, community center or other similar uses.

OTHER CIVIC FACILITIES

Policy 5.2.17 Other Civic Facilities. Other community and civic facilities serving the public shall be located in the Village Core and consolidated with proposed library and public safety functions.

Policy 5.2.18 Intergovernmental Maintenance and Services Facility. One or more sites for maintenance equipment and personnel shall be located within the Zone A Urban Area. To the degree possible, the facility shall be located to serve City, LARPD and School District maintenance needs, and may be located within the Community Park, the high school site, or other, suitable designated public facility areas.

5.3 PUBLIC SAFETY

Goal: To provide a full range of police, fire, and emergency medical facilities and ensure prompt and efficient service to North Livermore residents.

Policy 5.3.1 Public Safety Facility. A fire station in the Village Core shall provide space for police, fire, and emergency medical facilities.

Policy 5.3.2 Joint City/County Facilities. Joint city/county fire and police/sheriff service shall be provided for rural areas.

POLICE PROTECTION

It is anticipated that the Livermore Police Department will need to establish at least two new “patrol beats” to serve the area north of I-580. As part of the Project, a new fire station is proposed to be constructed within the Village Core area. Within this new fire station, adequate space will be made available to house a new Livermore Police Department sub-station which can provide the necessary support for these new patrol beats.

Policy 5.3.3 Maintenance of City Standards for Police Services. The City shall provide additional police personnel, and the Police Department shall revise its patrols as necessary to maintain City standards for police services in the North Livermore Urban Area.

Policy 5.3.4 Funding Police Services. Residents in the North Livermore Urban Area shall pay their fair share of the costs for providing police services, equipment and facilities through City General Fund tax revenue and the provision of a joint police/fire substation.

Policy 5.3.5 Coordination of Project Development Phasing. In matters relating to the timing of annexation and phasing of development in the North Livermore Urban Area, the City Planning Department shall coordinate with the Police Department so that the Police Department can adequately plan for the necessary expansion of services to the Plan Area, including the staffing of a new Police Department sub-station to be located within the planned fire station in the Village Core.

Policy 5.3.6 Safety and Security. All new development in the North Livermore Urban Area shall be designed to maximize safety and security, consistent with City security ordinances.

FIRE PROTECTION

The Project includes a new two-acre site within the proposed Village Core to be used as a new fire station for the Livermore-Pleasanton Fire Department. Additionally, the City of Livermore plans to re-locate Fire Station #10 to a site near the Las Positas College area immediately to the west of the Plan Area; Also, the Fire Department currently operates a fire station (Station #8) at Scenic Drive/Vasco near Springtown. These three fire stations will provide for fire protection coverage of the Urban Area.

The potable water system shall include new water storage reservoirs to be constructed and sized to meet the potable water storage requirements of the Plan Area and adjacent areas, including fire flows (see Chapter Six).

Additionally, subject to a tax sharing agreement between the County of Alameda and the City of Livermore, the Livermore-Pleasanton Fire Department will assume primary structural fire protection, emergency medical response and initial wildland fire response responsibility throughout portions of the Plan Area (Zones B, portions of Zones C and D). Back-up fire protection/suppression services will be provided by the Alameda County Fire Department and CDF.

Policy 5.3.7 Fire Stations. A new fire station shall be located in the Village Core. Additional fire service shall be provided by the relocated Fire Station #10 to be sited near the Las Positas College area, and from the existing fire station #8 located in the vicinity of Scenic Drive in the Springtown area (see Figure 2.1: Land Use Plan).

Policy 5.3.8 Fire Prevention and Safety Standards. All new development within the Plan Area, including new development within those unincorporated areas in Zones B, C and D but served by the LPFD pursuant to a service agreement, shall be subject to the fire prevention and safety standards adopted by the Livermore-Pleasanton Fire Department. In those instances where proposed development conflicts with established standards, the LPFD will work with the City of Livermore, Alameda County and the developers to find appropriate solutions that meet the multiple objectives of the Specific Plan. Fire response time travel goals for the Urban Area are five minutes first response, seven minutes second response and nine minutes third response.

Policy 5.3.9 Funding for Urban Fire Protection Services. New development within the North Livermore Plan Area (including those portions of the Plan Area to remain within unincorporated Alameda County) shall pay its fair share of the costs for providing fire protection services, including personnel, equipment and facilities. Funding for personnel shall be derived from the City General Fund, while costs for new facilities shall be paid for by new development.

- a) New development within the Urban Area shall be responsible for the full costs associated with construction and operation of the new fire station to be located within the Village Core. This obligation can be met by either paying fees, special assessments or constructing improvements to meet City specifications. However, operation of at minimum a temporary fire station on North Livermore Avenue must be assured prior to any construction within the Plan Area.
- b) New development within the Urban Area shall be responsible for one-half of the costs associated with construction and operation of the re-located Station #10 to be located near Las Positas College. This obligation can be met by either paying fees, special assessments or constructing improvements to meet City specifications.

Policy 5.3.10 Funding for Rural Fire Protection Services. Prior to the Livermore-Pleasanton Fire Department providing fire protection services to the unincorporated portions of the Plan Area (Zones B, D and portions of C), Alameda County and the City of Livermore shall enter into a memorandum of understanding or similar tax sharing agreement whereby appropriate property tax revenues shall be re-allocated to the City in exchange for providing fire protection services.

Policy 5.3.11 Emergency Access. All new development within the Plan Area shall be coordinated with the Livermore-Pleasanton Fire Department to ensure that adequate emergency vehicle access is provided to all development areas, and that emergency vehicle access routes are designed to LPFD specifications. Two points of access in urban areas shall generally be required.

Policy 5.3.12 Fire Prevention During Construction. During construction, developers in the Plan Area shall be required to implement fire prevention measures in order to minimize the potential for wildland fires, as indicated by the Livermore-Pleasanton Fire Department.

Policy 5.3.13 Residential Development Adjacent to Grassland Areas. All new homes with property lines abutting grassland open space areas shall be sited and designed to minimize risks to life and property, consistent with the following.

- a) **Defensible Space.** All new residential development in the Plan Area adjoining natural areas shall incorporate a defensible space not less than 30 feet in width between buildings and adjacent grassland areas.
 - i. This defensible space shall include the back or side yards and, if necessary to achieve the 30 foot minimum dimension, a buffer in the open space that is to be mowed once a year in the spring, as appropriate.
 - ii. Back or side yard landscaping within this defensible space shall be irrigated, shall utilize fire-resistant plant species, and shall avoid the use of highly flammable trees and other vegetation. Any trees utilized in this area shall be clustered to avoid creating continuous canopies.
- b) To the extent possible, residential site plans shall locate streets adjacent to open space areas, and shall minimize the number of buildings directly facing open space areas. When a street separates residences from adjacent open space lands the street will provide the defensible space defined above.
- c) **Fencing Materials.** All fencing materials used in areas adjacent to grassland open space shall be constructed of predominantly non-combustible materials (e.g., metal or concrete, open wire mesh, etc.).
- d) The 30' defensible space dimension may be modified downward upon the provision of building materials and methods that meet the approval of the City of Livermore and the Fire Marshall.

Policy 5.3.14 Minimization of Fire Hazards in Open Space Areas. All open space adjacent to urban portions of the Plan Area shall be designed and maintained to minimize fire hazards.

- a) Owners of private open space lands and agencies responsible for maintenance of public parks and recreational lands shall be responsible for ensuring that fuel loads do not build up in areas adjacent to residential development.
- b) Owners of private open space shall integrate fire trails and fire breaks into the open space trail system, and shall coordinate with the Livermore-Pleasanton Fire Department regarding standards for any access roads required in these areas.
- c) Owners of open space lands shall coordinate with the Fire Department regarding standards for access roads in these areas to minimize environmental impacts stemming from road construction.

CHAPTER SIX:

INFRASTRUCTURE

6.1 POTABLE WATER

BACKGROUND

Alameda County Flood Control and Water Conservation District, Zone 7 is the agency responsible for providing wholesale water to residents within the Livermore, Pleasanton and Dublin area, including the North Livermore Plan Area. Zone 7 is supplied with water from the State Water Project, local wells and other sources. Zone 7 purchases and treats bulk water, distributes treated drinking water and untreated irrigation water, manages surface water and groundwater and directs flood control efforts within the 425-square mile Livermore-Amador Valley water basin. Zone 7 estimates that its existing reliable water supplies of 60,500 to 62,500 acre-feet per year (afa) are adequate to meet existing treated and untreated water demands, but are projected to exceed Zone 7's existing reliable water supply after the year 2000.

Zone 7 anticipates having the capability to serve the long-term cumulative water demand throughout its service area through acquisition of additional water supplies, and has developed both a near-term and a long-term program that provides options for obtaining additional water supplies from a variety of sources. Based on its water supply planning program, Zone 7 expects to be able to provide both the near-term and long term water supply necessary to serve the potable water needs of the North Livermore Plan Area and other cumulative development within its service area.

POTABLE WATER DEMAND AND SUPPLY

No public water systems are currently within the Plan Area, and development will require the extension of current water distribution systems. Since the majority of the Urban Area is not currently within the boundary of the City of Livermore Service Area for water supply, the City will need to annex the Urban Area in order to provide water service.

Full development within the urban portion of North Livermore will add a maximum of 12,500 residential units, approximately 73 acres of commercial uses, and associated public and institutional uses and limited rural-residential uses in Zone B may add as many as 86 additional residences. The water demands of this development are expected to result in an increased demand for potable water supply in the amount of approximately 5,597 acre-feet per year, as shown in Table 6.1.

Goal: To Ensure a Safe and Adequate Supply of Water to Meet the Needs of North Livermore as it Develops

Volume II, Policy 6.1.1: Adequate Water Supply. The City of Livermore and Alameda County shall coordinate with Zone 7 to determine future water supply needs, and ensure the availability of adequate water supply as needed to serve new development within the Plan Area. All new urban development within the North Livermore Specific Plan Area shall be conditioned upon the availability of an adequate and permanent domestic water supply sufficient to service the proposed development.

- a) The City of Livermore shall update its 5-year projection of City-wide water demand pursuant to its Water Supply Agreement with Zone 7 on an annual basis, and shall include the amount of new development projected to occur within North Livermore during that 5-year period, as anticipated under the North Livermore Growth Management System.
- b) Each tentative subdivision map approval within North Livermore shall be conditioned upon verification at final maps of the availability of an adequate water supply to serve the proposed development.
- c) If Zone 7 continues to annually approve the City's 5-year water delivery schedule, the approval shall be considered verification of an adequate supply of water for the new development (shown on any tentative map application or final map) that is included within that projection.
- d) If, in any year, Zone 7 revises or disapproves, for reasons of water shortage, the City's projected water delivery schedule and the City is unable to meet its projected demands in any other way contemplated under the Water Supply Agreement with Zone 7, the projected phasing of growth in North Livermore, as well as in the remainder of the City's General Plan buildout, shall be adjusted proportionally to be consistent with the available water supply.

Volume II, Policy 6.1.2: Funding for Water Supply and Conveyance Facilities. New development within the Plan Area shall be responsible for paying the full cost of securing new sources of water and necessary conveyance facilities as may be required to serve the Project.

- a) Payment of applicable Zone 7 connection fees, or the construction of facilities in lieu of such fees, shall be the means by which new development pays for its obligation to fund new sources of water and to provide for necessary treatment and conveyance of this water to the Plan Area.

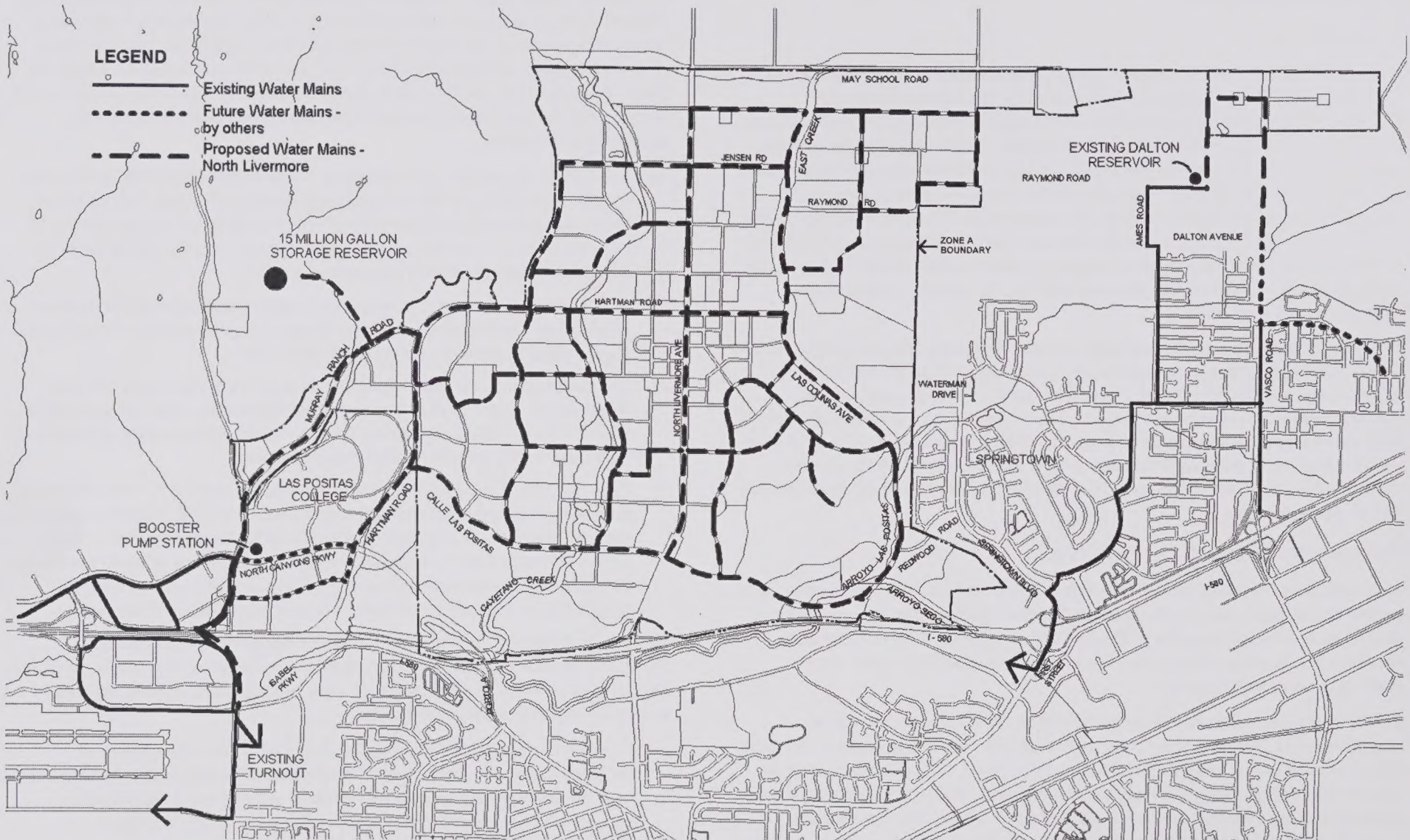


FIGURE 6.1 POTABLE WATER SYSTEM

Table 6.1: Potable Water Demand

Potable Water			
Residential	Population	GPCD	AFA
Very Low Density (280 units)	756	140	119
Low Density (1930 units)	5,211	140	817
Medium Density (5,300 units)	14,310	140	2,243
Med. High Dens. (2,770 units)	7,479	140	1,172
High Density (2,220 units)	5,328	140	835
subtotal	33,084		5,186
Commercial	Acres	AF/Acre	AFA
Village Center Retail	42	1.8	76
Village Center Civic	11	1.8	20
Support Commercial	20	1.8	36
subtotal	73		131
Schools	Students	GPCD	AFA
Elementary	3,751	20	84
Middle	1,748	25	49
High	2,276	25	64
subtotal	7,775		197
Parks and Open Space	People	GPCD	AFA
Neighborhood Parks	1,860	10	21
Community Park	1,740	10	19
Cemetery	5	100	1
subtotal			41
Zone B	Population	GPCD	AFA
Rural Residences	270	140	42
Total Potable Water Demand			5,597

POTABLE WATER DISTRIBUTION

The potable water system for the Plan Area shall generally be constructed as shown in Figure 6.1: Potable Water System, and is anticipated to include the following major improvements:

- New water storage reservoir(s) to be constructed and sized to meet the potable water storage requirements of the Plan Area, plus the potable storage needed for the water system serving the commercial/industrial uses north and south of I-580 (Pressure Zone 1). This is estimated to amount to approximately 15 million gallons of water storage. The proposed location of the reservoir(s) is north of the Las Positas College and west of Hartman Road, within the Zone C hillsides.
- The proposed water supply system for the Plan Area will be linked to the City's existing water supply system. A turnout from the existing Zone 7 main water line has been constructed by the City at Airway Boulevard. This turnout can provide another feed in addition to the existing Turnout No.5 near Airway/Kitty Hawk. Both turnouts can be supplied from either Patterson Pass or Del Valle Water Treatment Plants.
- A new booster pump will be installed, located near North Canyons / Murray Ranch Road to provide pressure adequate to fill the reservoir.
- A new transmission pipeline will be constructed from the new booster pump station to the new reservoir.
- Two pressure reducing valves will be installed to regulate pressure between water pressure zone #1 and the Plan Area (water pressure zone #2).
- Approximately 22.5 miles (119,200 linear feet) of 12" and 16" pipeline will be installed to serve the Plan Area.

The existing Springtown area will continue to be served from the Dalton Reservoir, as well as any new development adjacent to Springtown that is not within the North Livermore Plan Area. In order to accomplish this, water pressure zone #2 will be separated into two separate sub-zones, a North Livermore sub-zone and a Springtown sub-zone. Isolation valves will be located at the boundaries of the sub-zones that could be opened to serve one sub-zone from another if necessary under emergency conditions.

A small portion of the Plan Area (approximately 150 acres within the Zone A: Urban Area) near Vasco Road is isolated from the water pressure zone serving the remainder of the Urban Area. This isolated area will be served from extensions of the City's existing water pressure zone #3 via future looped water lines in Vasco Road and Laughlin Road.

Goal: To Provide an Efficient Potable Water System to Adequately Serve New Development

Policy 6.1.3 Water System Design Criteria. Criteria to be used for the design of the potable water system shall be those found in the City's 1995 Water Master Plan or subsequently adopted Water Master Plan, including maximum day water demand, peak hour/ maximum day water demand, water storage requirements, and adequate water pressure.

Policy 6.1.4 Local Water Distribution and Storage System. All new development projects within the North Livermore Plan Area shall be responsible for effecting the construction of a potable water conveyance and storage system as part of an Area-wide infrastructure plan.

- a) Each application for a tentative subdivision map within the Plan Area shall be conditioned to provide an adequate and available potable water distribution and storage system. Area-wide improvements to the water distribution system may be required as conditions of approval for individual development projects within the Plan Area.
- b) All development within the Plan Area shall be responsible for its proportionate share of necessary water system improvements. This responsibility can be met by either paying development fees, special assessments, and/or constructing improvements to meet City specifications.
- c) The water distribution and storage system shall be sized to serve the Plan Area and other remaining development as anticipated under the City General Plan, and shall not provide for additional growth and development beyond that anticipated under the General Plan.

Policy 6.1.5 Environmental Considerations. The water delivery system shall be designed and constructed in such a manner as to minimize potential environmental impacts.

- a) Installation of the water distribution system should occur commensurate with construction of new roadways to maximize efficiency.
- b) Design of the water distribution system shall seek to minimize crossings of wetlands or creeks.

Policy 6.1.6 Site Guidelines for Water Storage Tanks. A water storage tank siting study shall be conducted to precisely identify the location of proposed water storage tanks. The siting and construction of these storage tanks should seek to minimize the visual impact that such facilities could have to the surrounding open space areas.

- a) While the location of necessary water storage tanks will be guided primarily by the height requirements necessary to provide adequate water pressure, the selection of the preferred site should consider the potential for concealing the tanks from view from the Urban Area and surrounding rural development by locating them within small canyon areas or within topographic depressions within the hillsides.
- b) Grading necessary for water tank construction should be minimized as much as possible. This may mean that multiple, small water tank sites should be selected so as to minimize the amount of grading that would otherwise be required for one large tank site.
- c) Water tanks should be concealed from view using a combination of natural colors and materials, landscape screening with native species (such as oaks), and potentially burying portions of the tank underground if feasible.

WATER CONSERVATION

Policy 6.1.7 Water Conservation. The City and County shall require the efficient use of water within the North Livermore Plan Area through conservation.

- a) Water conservation measures shall be conditions of approval for subdivisions and other new development.
- b) All new private development within the North Livermore Plan Area shall mitigate projected water consumption by applying one or more Best Management Practices that reduce water consumption. Such practices shall include use of low-flow shower heads, faucets and toilets, and compliance with the City Water Efficiency Landscape ordinance.
- c) Public uses within the Plan Area shall minimize potable water demands through use of low-flow irrigation systems where reclaimed water is not used, the use of drought-resistant plant materials in public landscaped areas, and use of reclaimed water to irrigate all parks, public open space areas.

6.2 WASTEWATER

INTRODUCTION AND BACKGROUND

Within the North Livermore Plan Area, there are existing sewer lines located on Collier Canyon Road and Doolan Canyon Road, and sewer service has been extended to the Springtown area adjacent to the Plan Area. Where sewer connections are not currently provided within the Plan Area, existing residents are served by on-site septic systems.

Within the City limits of Livermore, sewer service is provided by the City of Livermore Public Services Department. The City of Livermore owns and operates a conventional wastewater treatment/ reclamation plant near the Livermore Municipal Airport. The Water Reclamation Plant (WRP) has an average dry weather flow (ADWF) treatment capacity of 8.5 million gallons per day (mgd), and a peak hourly flow capacity of 15.5 mg. The City of Livermore has adopted policy limiting any future improvements to the WRP to a maximum capacity of 11.1 mgd ADWF. The plant has the ability to reclaim approximately 2.4 mgd of effluent for irrigation and fire suppression uses. A 0.75 mgd reverse osmosis (RO) system is used to reduce the total dissolved solids (TDS) content of a portion of the plant effluent. Currently, demineralized water is sent to the reclaimed water system along with filtered secondary effluent.

Wastewater treated at the Livermore WRP is conveyed to an export pipeline operated by the Livermore Amador Valley Water Management Agency (LAVWMA). Effluent from the Livermore WRP combines with wastewater treatment plant effluent from the DSRSD and the City of Pleasanton, is pumped through the LAVWMA export pipeline to the East Bay Discharge Authority (EBDA), where it is dechlorinated and discharged into the San Francisco Bay. LAVWMA has initiated a project to increase its wastewater disposal capacity by expanding wastewater export facilities. However, at this time the City of Livermore is not participating in this expansion project since the ballot measure for this project (Measure Q on the 1998 ballot) failed. DSRSD and Pleasanton may proceed with the LAVWMA expansion project without Livermore's participation. The City of Livermore will retain the same ADWF influent limits whether or not it participates in the expansion project, but additional capacity that may become available for disposal of wet-weather flows will only be available to Pleasanton or DSRSD.

WASTEWATER GENERATION AND COLLECTION

The total wastewater generation projected for buildout of the Plan Area is estimated to be approximately 2.92 mgd of average daily dry weather flow. Additionally, infiltration of groundwater and stormwater into the sewer lines is expected, and may account for as much as approximately 0.5 mgd during dry weather (for a total dry weather flow of approximately 3.4 mgd) and 2.22 mgd during wet weather periods. The projected peak hour wet weather wastewater flows generated from buildout of the Plan Area, including wet weather I+ I, are estimated to be approximately 8.07 mgd, as shown in Table 6.2.

The existing wastewater collection and conveyance system in the northern portion of the City does not have adequate capacity to serve this demand. Significant improvements to this system will be needed, requiring a major expansion of the existing City wastewater collection network into this previously un-served area.

A wastewater system for the Plan Area shall be constructed generally as shown in Figure 6.2: Wastewater Collection System, designed to serve only the Zone A, Urban Area development, and will include the following major components:

- A trunk main along the Isabel Extension alignment, collecting flows from the southwest portion of the Plan Area and connecting to the existing trunk sewer system south of I-580
- A trunk main roughly paralleling Cayetano Creek, collecting flows from the northwest and central portions of the Plan Area. This new main will cross under I-580 at approximately the Portola overcrossing and connect to the existing trunk sewer system in that location
- A trunk main following the proposed alignment of Las Colinas Avenue in the eastern portion of the Plan Area, connecting to an existing trunk sewer system west of Springtown
- A trunk main collecting flows from Zone A development along Vasco Road that will connect to an existing line at Vasco/Dalton.

Final alignment of the major sewer trunk lines, as well as sizes and alignments of smaller sized sewer lines needed to serve new development, will be determined as part of final development plans.

Wastewater collection services will not be extended to other uses outside of the Urban Area (Zone A). Increased residential or other uses within Zone B, and any new rural homesites within Zone D will rely on the use of on-site septic systems for wastewater disposal.

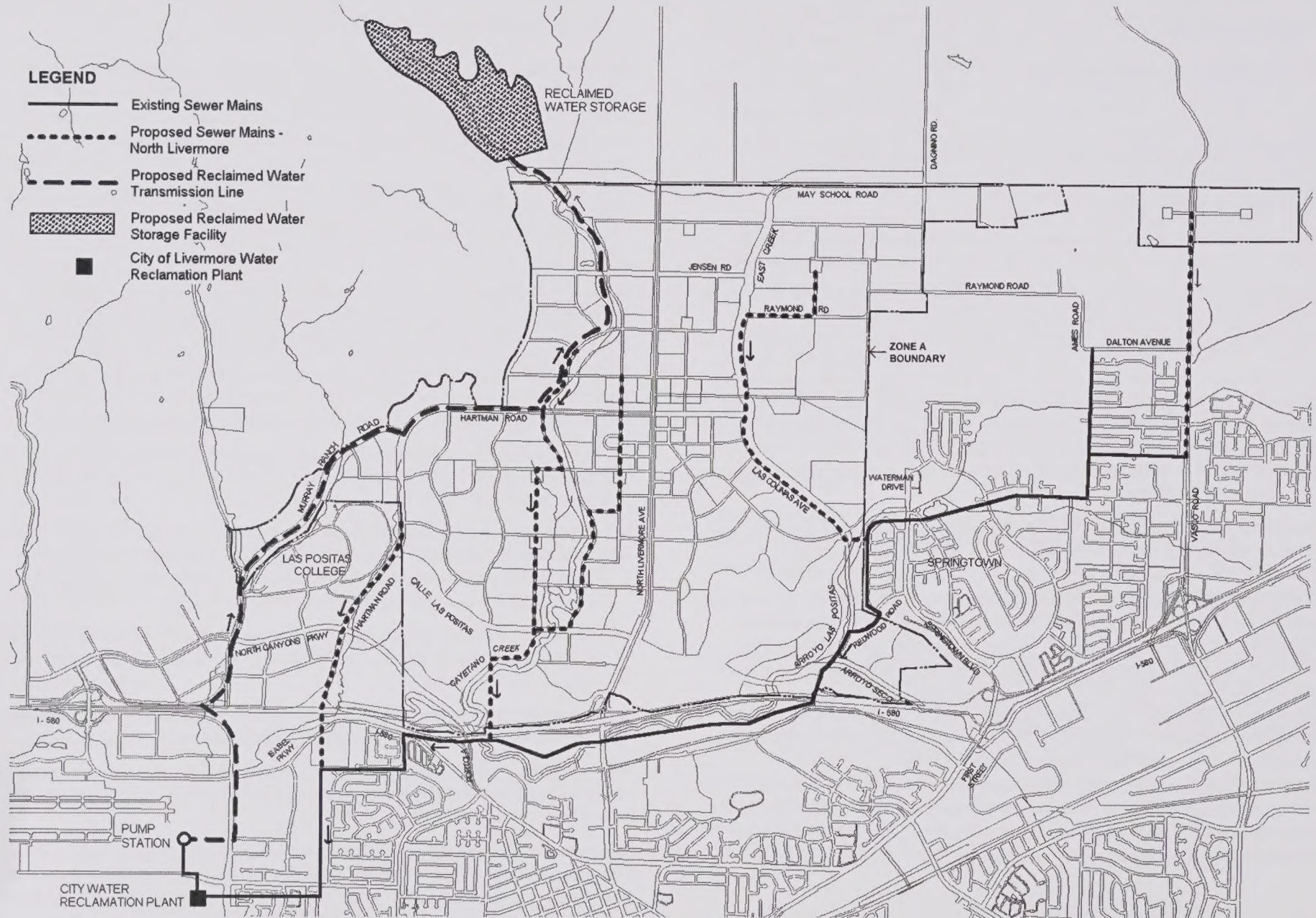


FIGURE 6.2: WASTEWATER COLLECTION SYSTEM

Table 6.2: Total Wastewater Demand

	Acres	Average Daily Flow	Peak Hour Wet Weather Flow
Residential			
Very Low Density	142	0.09	0.26
Low Density	531	0.52	1.36
Medium Density	884	1.32	3.17
Medium High Density	346	0.67	1.54
High Density	119	0.45	0.97
subtotal	2,022	3.05	7.32
Commercial			
Village Core Retail	32	0.04	0.09
Village Core Office	10	0.01	0.03
Civic/Inst.	11	0.01	0.03
Support Commercial	20	0.02	0.06
subtotal	73	0.08	0.20
Schools			
Elementary Schools	40	0.08	0.19
Middle Schools	40	0.05	0.13
High School	48	0.07	0.16
subtotal		0.20	0.48
Parks			
Neighborhood Parks	93	0.02	0.04
Community Park	87	0.02	0.03
subtotal	0.04	0.04	
Total Wastewater Generation		3.4	8.1

¹ Average Daily Flow = Average daily sanitary flow plus anticipated dry weather inflow and infiltration.

² Peak Hour Wet Weather Flow = Peak flows (2 times average daily flow) plus wet weather inflow and infiltration.

Policy 6.2.1 Wastewater System Design Criteria. Criteria to be used for the design of the wastewater system shall be those found in the City's Sewer Master Plan, including reliance on gravity drainage to minimize pumping to the extent feasible, and basing pipe size on a 15-minute peaking criteria.

Policy 6.2.2 Wastewater Collection and Conveyance System. All new development projects within the North Livermore Plan Area shall be responsible for constructing a wastewater collection and conveyance system as part of an Area-wide infrastructure plan. This system shall be designed to serve Zone A land uses only.

- a) Each tentative subdivision map approval within the Plan Area shall be conditioned upon verification, at final map, of an adequate and available sewer system. Sub-area improvements to the overall sewer system may be required as conditions of approval for individual development projects within the Plan Area.
- b) All development within the Plan Area shall be responsible for its proportionate share of necessary sewer system improvements. This responsibility can be met by paying fees, special assessments and/or constructing improvements to meet City specifications.

Policy 6.2.3 Environmental Considerations. The sewer system shall be designed and constructed in such a manner as to minimize potential environmental impacts.

- a) Sewer lines proposed to be constructed parallel to and within creek corridors shall be located within a dedicated easement along the outer boundary of the corridor to avoid impacting creek habitat.
- b) Design of the sewer collection system shall seek to minimize crossings of wetlands or creeks. Sewer lines that cross existing or proposed creeks should be located at road crossings and use sewer bridges to span the creek where possible, or go under the creek.
- c) Installation of the sewer system should occur concurrently with construction of new roadways to maximize efficiency, and minimize environmental disturbance.
- d) Sections of impermeable backfill ("trench dams") should be constructed across sewer trenches at the boundaries of preferential flow paths to prevent groundwater flows within the preferential flow paths from being diverted along the alignment of the sewer path.

OFF-SITE WASTEWATER CONVEYANCE

Wastewater flows generated within the Plan Area, when combined with existing sewer flows and projected flows resulting from other cumulative buildout within the City, will exceed the conveyance capacity of certain portions of the City's existing trunk sewers.

Volume II, Policy 6.2.4: Adequate Off-site Wastewater Conveyance Capacity. New development within the Plan Area shall be responsible for paying its proportional cost for providing adequate off-site wastewater conveyance capacity necessary to support such development by payment of City sewer fees.

- a) Each application for a tentative subdivision map within the Plan Area shall be conditioned to ensure an adequate and available off-site sewer conveyance system capacity.
- b) Improvements to the City's off-site sewer system may be required as conditions of approval for individual development projects within the Plan Area.
- c) The City of Livermore shall utilize sewer fees collected from the Project and elsewhere within the City to construct necessary improvements to the City's trunk sewer lines in order to accommodate anticipated cumulative development. The identified necessary improvements to the City's existing trunk lines upstream of the WRP include:
 - i. increased capacity of the furthest downstream trunk sewer, where it enters into the WRP,
 - ii. capacity improvements at the "bottle-neck" south of I-580, and
 - iii. upgrades to the College/Collier Canyon Pump Station.

WASTEWATER TREATMENT

The City has anticipated the need for improvements at the WRP, designed to increase the ADWF capacity of the facility by an additional 2.6 mgd, resulting in a total treatment capacity of 11.1 mgd ADWF, consistent with City policy limitations. The City will conduct an aggressive program to reduce dry weather infiltration into the existing wastewater collection system so that buildout within

the Plan Area and other anticipated cumulative development within the City may be served without exceeding the City's WRP influent limitation. Available storage at the WRP can be optimized to provide temporary storage of influent. This storage can allow operations at the plant to be staged so that the peak hour flows can be processed over a longer period of time without back-ups at the WRP facilities.

Policy 6.2.5 Adequate Long-Term Treatment Plant Capacity. No new development shall be approved within the Urban Area until the City has verified that an adequate, long-term capacity of wastewater treatment can be provided to serve the development.

- b) Each application for a tentative subdivision map approval within the Urban Area shall be conditioned upon verification, at final map, of adequate and permanent capacity at the WRP to service the proposed development.
- c) New development within the Urban Area shall be responsible for paying its proportional cost for providing adequate wastewater treatment plant capacity through payment of applicable City sewer connection fees.
- d) The City of Livermore shall utilize sewer fees collected from the Urban Area and elsewhere within the City to implement necessary improvements to the City Water Reclamation Plant including:
 - i. expanding the average dry weather flow capacity of the WRP to 11.1 mgd,
 - ii. providing advanced treatment and disposal capacity,
 - iii. providing increased storage capacity for peak flows, and
 - iv. other improvements, including expanded reclaimed water treatment capacity, as may be deemed necessary by the City in the future.

Policy 6.2.6: Reduction of Inflow and Infiltration. The sewer system shall be designed and constructed to minimize potential inflow and infiltration.

- a) In areas of high water table and across preferential flow paths, construction materials and techniques shall be used to minimize inflow and infiltration, potentially including use of standard water pipelines, using plastic pipe with welded joints, or other pipelines approved by the City Engineering Division.

Table 6.3: LAVWMA Pipeline Capacity and Alternative Disposal Needs

	ADWF	AWWF
Reported Current City of Livermore Flow	5.4	6.57
Projected Flows from Other Cumulative Development	+ 2.8	2.41
Total Other Cumulative Flow	8.2	8.98
North Livermore Projected Flow	+ 3.4	+ 3.72
Total Cumulative Flow (Buildout)	11.6	12.70
Anticipated I&I Reduction	- 0.5	- 0.5
Projected Buildout Flows less I&I Reduction	11.1	12.2
City's Current LAVWMA Export Pipeline Capacity	8.5	8.73
Additional Disposal Capacity Required	2.6	3.47

WASTEWATER DISPOSAL

Buildout of North Livermore will generate wastewater flows that, in combination with existing flows and projected flows from other cumulative development, will exceed the City of Livermore's wastewater disposal capacity through the existing LAVWMA export pipeline, as shown in Table 6.3. Additional wastewater disposal opportunities will be needed to accommodate this cumulative increase in wastewater disposal needs.

To provide for the wastewater disposal needs from North Livermore and from elsewhere in the City, the City must either acquire additional capacity in the LAVWMA pipeline through implementation of the proposed LAVWMA export pipeline expansion project, utilize an alternative means of effluent disposal, or restrict future development such that the effluent disposal capacity is not exceeded. In light of the City's rejection of the ballot measure which would have committed the City to participation in the LAVWMA expansion project, alternative disposal solutions are the only currently viable option for accommodating future growth.

The Plan provides an opportunity for the City to develop a supplemental wastewater disposal strategy designed to meet the expected cumulative wastewater disposal needs of the City at buildout, including the Plan Area. This strategy includes several components including:

- Maximizing the use of the City's existing capacity in the LAVWMA disposal system.
- Treating effluent to acceptable standards at the WRP and using this reclaimed water for irrigation within the Urban Area (Zone A) for landscaping at parks, schools, golf courses, commercial developments, roadway medians and creek corridors. Additional use of reclaimed water is proposed for agricultural uses within Zone B.
- Providing long-term storage of reclaimed water. During wet weather periods (November through March) when direct irrigation is not needed, treated effluent in excess of the City's LAVWMA export limit will be stored. The projected total volume of this excess reclaimed water is approximately 740 million gallons. A reclaimed water storage reservoir will be constructed, consisting of a new dam located in the western hills in portions of Zones B and D, at the beginning of the Cayetano Creek drainage.
- Constructing pipelines and pumping capacity from the WRP to the Plan Area's storage facility.

Policy 6.2.7 Assurance of Adequate Long-term Wastewater Disposal Capacity.

All new development within the North Livermore Plan Area shall be conditioned on the availability of an adequate, long term capacity of wastewater disposal to serve the development.

- a) Each tentative subdivision map approval shall be conditioned upon the verification, at final map, of an adequate and permanent method for the safe disposal of effluent generated by the proposed development.
- b) New development within the Urban Area shall be responsible for paying its proportional cost for providing adequate effluent disposal necessary to support such development through payment of City Sewer Fees.
- c) The City of Livermore shall utilize sewer fees collected from North Livermore and elsewhere within the City to offset the costs associated with construction of the necessary storage and associated facilities, including:
 - i. The pump station
 - ii. Pipelines from the WRP to the storage facility
 - iii. The 740 million gallon storage reservoir

Policy 6.2.8 Environmental Considerations for the Reclaimed Water Reservoir.

The reclaimed water storage reservoir shall be designed and constructed in such a manner as to minimize potential environmental impacts.

- a) Construction of the reservoir shall include appropriate remediation of existing landslide conditions to eliminate slide hazards and provide stable abutments and foundation for the dam.
- b) Geotechnical investigations shall be conducted at the reservoir site. The final design of the dam shall address the structural requirements of this facility to appropriately remediate any potential effects associated with ground shaking, surface rupture and earthquake induced landslides.
- c) Should construction of the reclaimed water reservoir result in the loss of wetland habitat, mitigation for this impact shall consist of the creation and enhancement of new wetland habitat to ensure no net loss consistent with the goals and policies of the Resource Conservation Plan.
 - i. All modifications to wetlands or other waters shall be coordinated with CDFG and the Corps, to the extent required by state and federal law, to ensure that all mitigation requirements and any design modifications are incorporated into the Plan and design of the reservoir.
 - ii. Sensitive animal species which may be present at the reservoir site shall be salvaged and relocated to suitable areas within the Habitat Management Area subject to Resource Agency approval.
- d) The California Division of Dam Safety shall review and approve the design and construction of the reservoir.

Policy 6.2.9 Alternative Wastewater Disposal Strategies. If alternative wastewater disposal strategies are available to the City in the future (i.e. re-consideration by the City to participate in the LAVWMA Facility Improvement Program, a determination by Zone 7 to make a portion of the Chain-of-Lakes available for storage and re-use of reclaimed water, or other alternatives as may become available), the City may re-consider or phase-out this proposed wastewater disposal method if these other alternatives are more cost effective and/or environmentally superior.

6.3 RECLAIMED WATER

INTRODUCTION

The use of reclaimed water not only provides for an alternative means of wastewater disposal for the City as described above, but also provides a source of irrigation water for all public landscaped areas within the Urban Area (Zone A) such as street medians, schools, parks and creek corridors, and a water supply that can meet the irrigation demands for increased agricultural uses north of May School Road (the Zone B - Rural Management Area).

Use of reclaimed water for such irrigation purposes will reduce the Plan Area's overall water demands. However, if reclaimed water or other untreated sources are not available to the Plan Area, the non-potable irrigation demands would need to be served from either Zone 7's potable or raw water supply sources.

The total non-potable, or irrigation water demand for the Plan Area is estimated to be approximately 3.03 mgd, or an annual average demand of 3,642 afa, as shown in Table 6.4. This demand is based on the assumption that approximately 700 acres of land within Zone B, which has been identified as having soil types suitable for irrigated agricultural use, are irrigated. For planning purposes, the assumption for this area is that approximately 200 acres would be developed with golf course use, 300 acres would be devoted to wine grape production, and the remaining 200 acres would be put to other irrigated crops.

RECLAIMED WATER SYSTEM

The reclaimed water system shall be constructed generally as shown in Figure 6.3: Reclaimed Water System, and will include the following major physical improvements:

- Existing land uses within the City's existing Zone 1 service area that are connected to the current reclaimed water system for fire suppression and storage will be disconnected, and then connected to the new potable water system developed for the Plan Area.
- In order to deliver reclaimed water to the storage reservoir, a new pump station and transmission pipeline will be required. This pipeline will also be used to deliver reclaimed water directly to the Plan Area from the WRP for direct irrigation use. A secondary pipeline will be constructed to deliver reclaimed water from the storage facility to internal uses within the Plan Area.

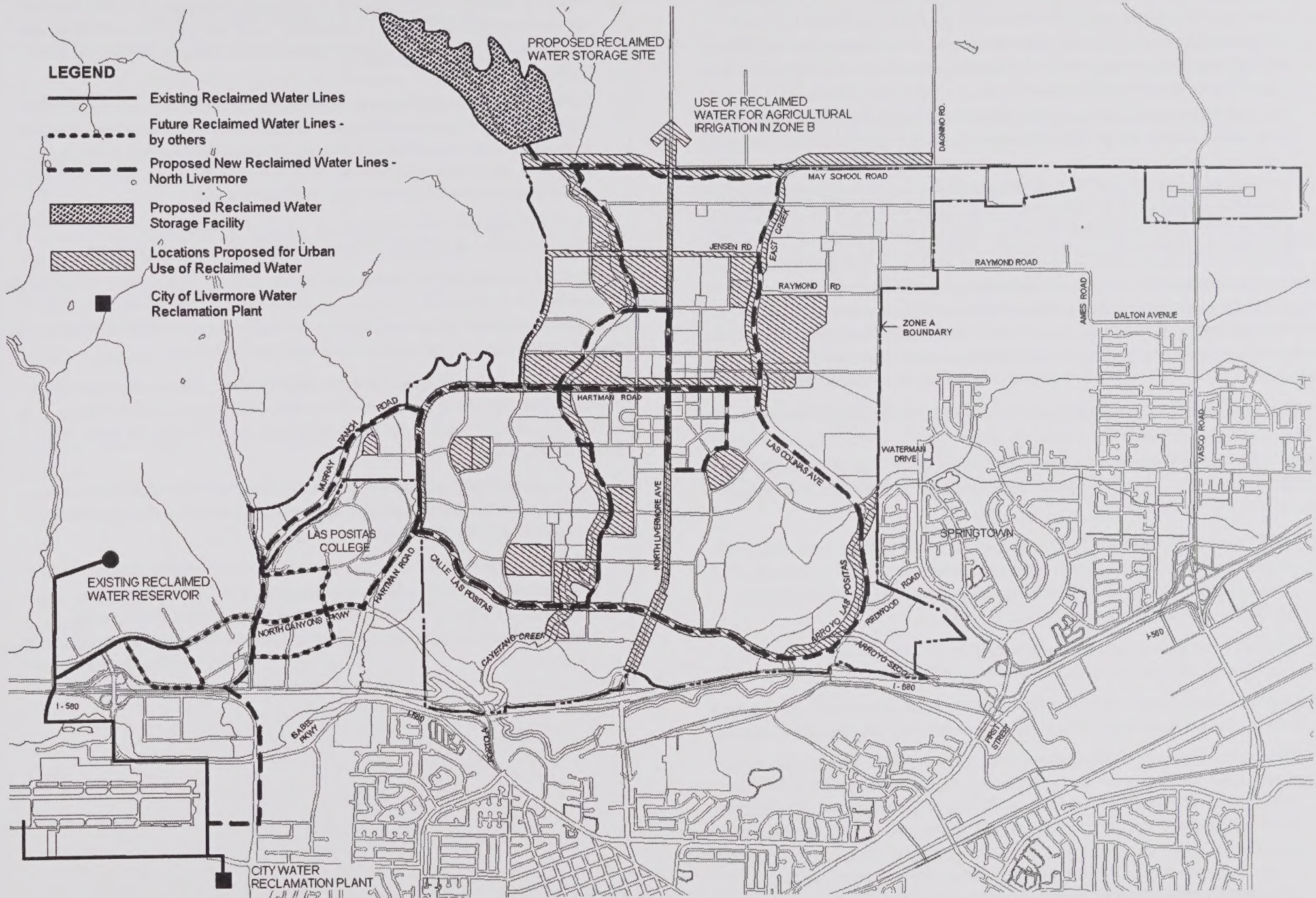


FIGURE 6.3 RECLAIMED WATER SYSTEM

- Approximately 15.4 miles (81,000 linear feet) of new 8" to 16" reclaimed water pipeline will be installed within the Plan Area. Installation of these pipelines will occur prior to implementation of street improvements. Pipes will be sized to accommodate peak irrigation conditions, and to provide fire flows for certain uses within Zone 1.
- The reclaimed water system for reclaimed water service within Zone A of the Plan Area (south of May School Road) will also be used to deliver reclaimed water to Zone B (north of May School Road). A booster pump will be installed in the vicinity of May School Road to lift reclaimed water to higher elevations within Zone B. Reclaimed water users within Zone B (agricultural uses or golf course uses) shall be responsible for installation of all necessary reclaimed water conveyance facilities north of May School Road.

In order to encourage private use of reclaimed water within Zone B, this water supply will be made available at prices favorable to agricultural use. The favorable pricing policy is expected to result in providing adequate incentives to landowners within Zone B to utilize the reclaimed water resource at sufficient quantities to allow for complete irrigation disposal of all reclaimed water.

Goal: To Make the Most Efficient Use of Water Within the Plan Area Through Recycling

Policy 6.3.1 Use of Reclaimed Water. Reclaimed water shall be used to contribute towards irrigation of parks, public open space areas, and agricultural areas within the Plan Area.

- a) The City of Livermore shall utilize reclaimed water to meet the average day irrigation needs of parks, public open space area, and schools within the Plan Area's Urban Area (Zone A), and other uses as outlined in the California RWQCB's reclaimed water permit for the City.
- b) The supply source of reclaimed water shall be from improvements to the existing City of Livermore Water Reclamation Plant.
- c) Use of reclaimed water for irrigation of public landscape areas within Zone A may be phased according to the phasing schedule of Plan Area development.
- d) The City of Livermore shall make available for purchase an adequate supply of reclaimed water to meet the agricultural irrigation needs within the Plan Area's Rural Management Area (Zone B). The anticipated uses of reclaimed water may include irrigation water for golf course use, as well as vineyard and other irrigated crop uses. The City may also make available for purchase under long-term contract a supply of reclaimed water to meet certain agricultural needs with the South Livermore Plan Area.

- e) The City shall provide reclaimed water under long-term contract at prices favorable to agricultural use. Reclaimed water use shall be monitored, and pricing and long-term contracts adjusted as necessary to ensure adequate disposal as needed.
- f) To assure adequate wastewater disposal opportunities through irrigation of agricultural or other allowable uses within Zone B, conservation easements granted pursuant to the Zone B Density Bonus program may include irrigation easements which allow the City to irrigate those open space areas under conservation easements with reclaimed water.
- g) The City shall reserve an amount of 1,775 AFA of reclaimed water designated for use in North Livermore north of May School Road.

Policy 6.3.2 Availability of Reclaimed Water Supply. The amount of reclaimed water used for irrigation of public areas within Zone A, combined with the demand for reclaimed water within Zone B, shall be permitted to exceed the total amount of wastewater generated from within the Plan Area.

Policy 6.3.3 Reclaimed Water Distribution System. All new development projects within the North Livermore Plan Area shall be responsible for construction of a recycled water distribution system as part of the area-wide infrastructure plan.

- a) Sub-area improvements to the overall reclaimed water distribution system may be required as conditions of approval for individual development projects within the Plan Area.
- b) All development within the Plan Area shall be responsible for its proportionate share of reclaimed water system improvements. This responsibility can be met by either paying development fees, special assessments, and/or constructing improvements to meet City specifications.

Table 6.4 Total Irrigation Water Demands

Non-Potable Water			
Schools	Acres	AF/Acre	AFA
Elementary	30	3.5	105
Middle	30	3.5	105
High	45	3.5	158
subtotal			368
Parks and Open Space	Acres	AF/Acre	AFA
Neighborhood Parks	86	3.5	301
Community Park	94	3.5	329
Creek Corridors	68	3.0	204
May School Greenbelt	28	2.5	70
Cemetery	50	3.5	175
Roadway Landscaping	120	3.5	420
subtotal			1,499
Agriculture	Acres	AF/Acre	AFA
Golf	200	3.5	700
Wine Grapes	300	2.25	675
Irrigated Crops	200	2.0	400
subtotal			1,775
Total Irrigation Demand			3,642

ALTERNATIVE RECLAIMED WATER PROPOSAL

The Project anticipates use of reclaimed water for irrigation of public landscaped areas within Zone A, and increased agricultural irrigation within Zone B. This strategy is intended to provide for a reduction in the demand of outside water supply sources to meet Project irrigation needs, as well as to provide for the disposal of treated wastewater in excess of the City's share of the LAVWMA pipeline.

However, reclaimed water from the City WRP has a higher level of TDS concentration than water supplied through Zone 7's potable and non-potable sources. Therefore, use of reclaimed water that ultimately contributes to the Main Basin can have an increased impact on salt loading over other potable and non-potable water supplies. Depending upon the availability of Zone 7's water supplies, and Zone 7's preferences regarding strategies for the reduction of salt loading as determined in the future Salt Management Program, the Project includes the following alternative policy which may be incorporated into future project plans:

Alternative Policy 6.3.4: Treatment or Blending of Reclaimed Water. The Project should participate in improving the quality of reclaimed water delivered to the Project Area by either enhancing treatment capabilities at the WRP, or by blending reclaimed water with surface water.

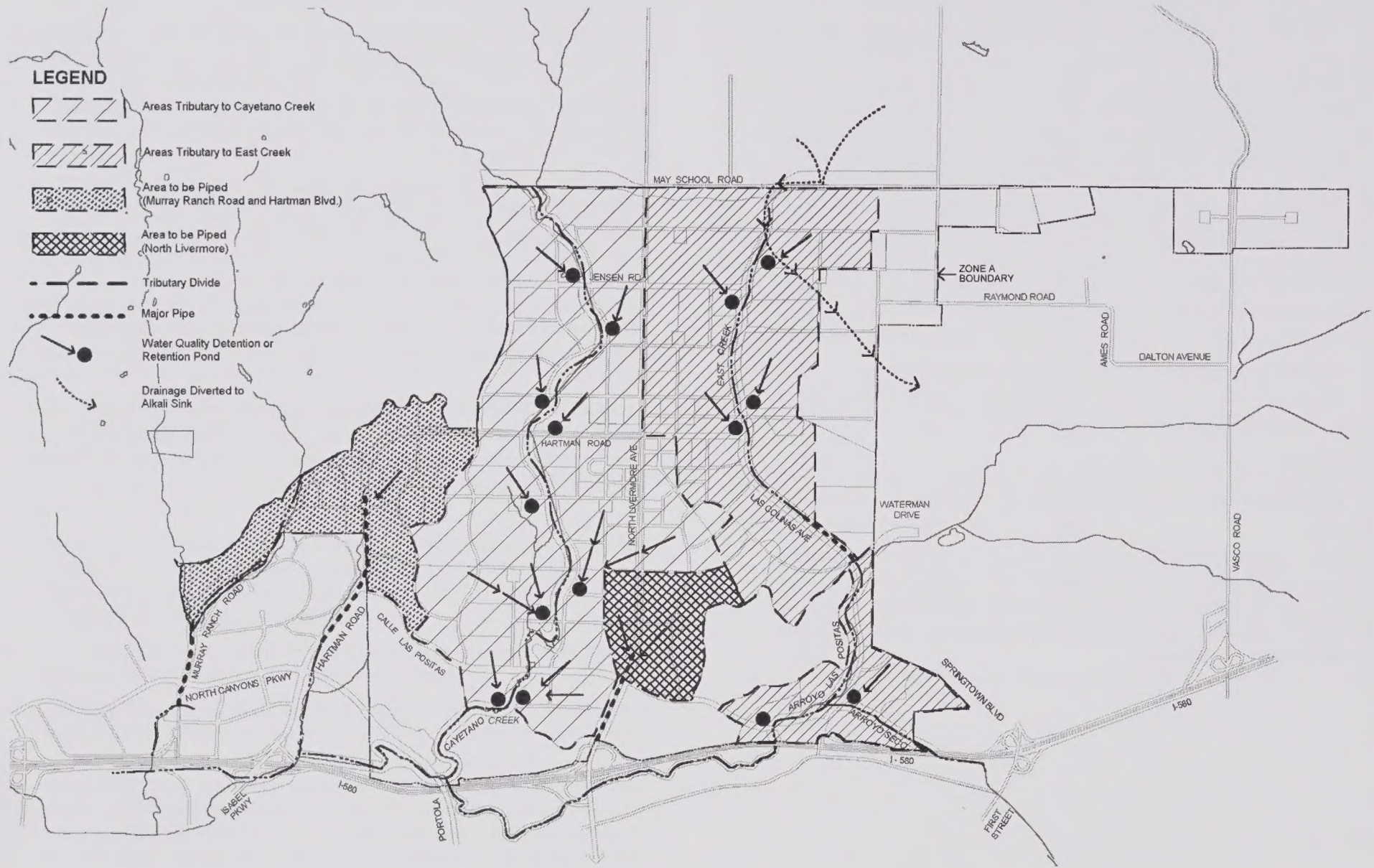


FIGURE 6.4: STORM DRAINAGE SYSTEM

6.4 STORM DRAINAGE

INTRODUCTION

The Plan Area is located in the northern portion of the Arroyo Las Positas watershed. The local watershed is comprised of six surface water sub-basins drained by a system of major creeks that flow in a general north-to-south direction, ultimately combining with Arroyo Las Positas and then Arroyo Mocho and Arroyo Del Valle, which comprise the major drainages within the Livermore Valley. The Livermore Valley watershed, a sub-basin of the Alameda Creek watershed, drains westerly to Arroyo de la Laguna, which feed Alameda Creek near Sunol, and ultimately discharges to San Francisco Bay near Union City.

Creeks within the Plan Area (with the exception of the upper portions of Cayetano Creek, which have been channelized by prior agricultural practices) are generally in their natural state. During major storms there is a considerable amount of overbank flooding in upstream reaches of these creeks.

STORM DRAINAGE SYSTEM

As part of the Plan Area's infrastructure program, an area-wide storm drainage system will be constructed to convey stormwater from the site. These improvements include storm drain pipes within roadway alignments, improvements to the existing Cayetano Creek, and construction of a new channel (East Creek) within the eastern portion of the Plan Area (see Figures 5.5 and 5.6). These improvements, as shown on Figure 6.4: Storm Drainage System, are more fully described as follows:

- Storm water flows from within the urbanized portion of the Plan Area will be routed via swales, gutters and open channels to drop inlets connected to an underground system of storm drainage pipes. These pipes will be located primarily under roadways. These storm drain pipes will be designed to accommodate the 10-year design storm event, consistent with City of Livermore standards.
- The storm drain pipes will route storm water down-gradient to connection points along Cayetano Creek and a new drainage facility, East Creek.
- The upper portions of Cayetano Creek will be improved as a wide, naturally-appearing channel. The channel will consist of a low-flow channel capable of handling flows less than a 2.3-year storm event, with a 15 to 20-foot wide terrace on one side. Above the terrace, the channel will widen as it rises to a depth sufficient to handle 100-year flows. The channel terrace and banks will be heavily planted above the 2.3-year flow line. The channel cross-section

will reach a top width of approximately 150 feet. The creek corridor will be located within a greenbelt corridor averaging 250 feet in width, leaving approximately 100 feet for buffers, landscaping and a linear park.

- In the lower, southern reaches of Cayetano Creek, the existing channel has a deeper, wider stream bed with heavy riparian vegetation at some locations. Within these lower reaches, the bottom 3 to 4 feet of the channel and any areas having high riparian value will be preserved, while in selected areas the upper slopes will be laid back and armored to prevent on-going erosion. The result will be a variable cross-section that generally consists of a lower portion left in its natural state, above which will be terraces and revegetated banks rounded to give a more natural appearance.
- In the eastern portion of the Plan Area, a new drainage facility, East Creek, will be constructed to carry runoff from the eastern side development. The design of East Creek will be similar in nature to the design proposed for Cayetano Creek, with a low-flow channel within a larger 100-year flow channel placed within an approximately 150-foot greenbelt. A portion of East Creek in the southeast corner of the Plan Area, near the Springtown Alkali Sink, will be placed within a culvert in order to avoid disturbing existing environmental resources and provide adequate grade for drainage.
- In the central portion of the Project Area along the Urban Area's western edge near the Las Positas College, the unnamed drainage will be placed within one of two culverts to be constructed along the general alignment of the proposed new Isabel Parkway/Hartman Road and within the right-of-way of Murray Ranch Road connecting to Airway Boulevard.
- In the very southern portion of the Zone A Urban Area along North Livermore Avenue, drainage from this urban development area would be placed within a culvert below the North Livermore Avenue right-of-way. This culvert would drain these lower portions of the Project Area which cannot be routed to either Cayetano Creek or East Creek.

Goal: To Provide an Efficient and Environmentally Sensitive Storm Drainage System to Adequately Serve New Development.

Policy 6.4.1 Storm Drain System Design Criteria. Design of the storm drainage system shall be in accordance with City of Livermore's Facilities Planning Guidelines and the design criteria of Alameda County Flood Control and FEMA.

Policy 6.4.2 Storm Drainage Collection System. All new development projects within the North Livermore Urban Area shall be responsible for constructing a storm drainage collection system as part of an Area-wide infrastructure plan.

- a) Each application for a tentative subdivision map shall be conditioned upon verification, at final map, of an adequate and available stormwater collection system. Area-wide improvements to the overall storm drain system will be required when appropriate as conditions of approval for individual development projects within the Plan Area.
- b) All development within the Plan Area shall be responsible for its proportionate share of necessary storm drain improvements. This responsibility can be met by either paying development fees, special assessments, and/or constructing improvements to meet City specifications.

Policy 6.4.3 Environmental Considerations. New drainage facilities and improvements to existing drainage facilities shall be designed so as to minimize impacts upon existing streams and arroyos while still meeting Zone 7 design flow criteria.

- a) Open channel storm drainage improvements (specifically Cayetano Creek and East Creek) shall be designed as two-stage channels, with a separate low-flow channel within the larger 100-year flood channel. Hard-lined or trapezoidal channels shall not be used in favor of more naturally appearing and functioning open channel design.
 - i. Low flow channels shall be designed to contain the 2-year flood event. The low flow channel shall have a meander pattern with pools and riffles designed to be stable in a two-year storm event.
 - ii. High flow flood channels should be designed such that the top of bank of the flood channel is able to contain projected 100-year flows at buildout, with a minimum 1 foot of free board. If a top of bank berm, levee or floodwall is used to contain the 100-year flow, 2 feet of freeboard should be provided to meet FEMA criteria.
- b) Stream corridors shall be created and maintained with natural features to provide for stream stability, water quality, habitat enhancement and visual interest using the following techniques:
 - i. Include meanders, pools, riffles, and where possible, small (2 feet or less in height) stone drop structures.
 - ii. If rocks are used to maintain a stable channel bottom, use non-grouted rip-rap to anchor them to the bottom of the channel for flood flow stability.

- iii. Low drop structures (2 feet or less in height), meanders, or rocks and vegetation should be used to reduce bank erosion by controlling velocity and stabilizing the banks. Wherever possible, use natural processes such as vegetative root growth to armor channel banks.
 - iv. Retain the natural channel bottom wherever possible to maintain the interaction and hydraulic connection between groundwater and surface water.
 - v. Restrict the use of rip-rap and gabions in favor of such structures as live crib-walls and log or rock deflectors and other bio-technical solutions. If rip-rap or gibbons are used, they should be restricted to lower slopes covered with soil and planted, or be inter-planted with native species whenever feasible.
 - vi. In-channel floodway terraces should include the creation of wetlands and vegetated swales that provide for reduction of pollutants in urban runoff prior to discharge to the arroyo.
- c) Installation of storm drain conduits shall generally occur concurrent with construction of roadways to maximize efficiency of construction, minimize traffic disruption and reduce potential disruption to soils and potential riparian habitat.

EROSION CONTROL

A side effect of improving the on-site drainage facilities will be to convey runoff from the site into Arroyo Las Positas more quickly than under existing conditions, such that runoff in the Arroyo may flow at greater velocities thereby increasing the erosive potential within the channel.

Policy 6.4.4 Creek Stabilization Plan. As part of the improvement plans for Cayetano Creek and East Creek, a detailed creek bank stabilization plan shall be prepared for all drainages within the Urban Area tributary to Arroyo Las Positas. This plan shall provide for stabilization of slopes and minimizing ongoing erosion and may include the following elements:

- a) Near the convergence of Cayetano Creek and Arroyo Las Positas, implement erosion control strategies such as armoring the outside of meanders.
- b) Near the convergence of East Creek and Arroyo Las Positas/Altamont Creek, benches may be created where the channel is narrow (thereby increasing the channel width while moderating the erosive effects of an abrupt change in flow direction), steep channel banks may be laid back to a more stable configuration, and bare slopes may be planted or armored with rock.

6.5 STORM WATER QUALITY

SOURCE CONTROL

Part of the approach for protecting the quality of storm water runoff includes reducing the source of pollutants that might enter into the runoff. Physical features and site planning features that assist in reducing the source of pollutants include:

- Although the Plan Area covers approximately 13,500 total acres, the urbanized area is limited to approximately 3,200 acres south of May School Road. Approximately two thirds of the Plan Area will remain as either open space or as large parcels used primarily for agriculture.
- Residential streets will comprise a significant portion of the Urban Area's impervious surfaces. By narrowing street widths, stormwater runoff would decrease and the potential for infiltration would increase. The streets within the Plan Area are designed to widths narrower than typical City standards.

Policy 6.5.1 Pollutant Source Controls. The Project shall develop and implement a program to reduce the pollution associated with stormwater runoff through the control of pollution sources. This program shall include:

- a) A public education component promoting safe housekeeping practices, the use of less harmful products, and a reduction in vehicle use
- b) A warning sign program for storm drains ("Drains to Bay")
- c) The development of collection points for oil and hazardous waste
- d) Increased enforcement to prevent illegal dumping
- e) Periodic catch basin cleaning
- f) Monthly street sweeping

WATER QUALITY TREATMENT

Although source control is a critical component to the storm water management strategy, such measures are not completely effective in eliminating potential pollutant loading of runoff, and treatment control methods are required. The storm water quality system includes a variety of treatment methods, including the following:

- **Disconnecting Roof Runoff.** Runoff from rooftops in residential areas will be directed across planted areas within individual lots, effectively disconnecting this source from the impervious area. Runoff would be routed from the

gutters on residences to "splash boxes" at the base of the gutter downspouts and then overland through landscaped areas prior to reaching the street gutter. Residential lot grading shall provide positive drainage towards the street such that the runoff will drain across lawns or grassy swales towards the street and away from building foundations.

- **Clustering High Density Uses.** High density housing development shall be designed around centralized open space areas containing landscaping. Surface and roof runoff from the high density housing will be directed towards these open space areas, enabling the landscape areas to act as filters for the runoff.
- **Minor Street Parkway Strips.** Minor streets in commercial areas and neighborhood collectors are designed to include a landscape strip between the street pavement and the sidewalk. Runoff from the sidewalk will sheet flow across this landscape strip before entering the adjacent gutter.
- **Major Street Swales.** Where possible, arterial streets shall include grass-lined swales between the sidewalk and the street. Runoff will drain along the swales to grated inlets after being allowed to pass through the curb at regular intervals.

Two major drainage channels are proposed as part of the Plan, an improved Cayetano Creek and a new East Creek. Urban Area runoff tributary to these creeks will be treated as described below.

- "Off-line" extended detention facilities would be created adjacent to the banks of Cayetano Creek and East Creek within the creek corridors. These facilities would route runoff through a pipe system to a weir structure, where low flow would be diverted to a pond, and higher flow is allowed to pass directly into the creek channel. Water in this pond would then be slowly released through a throttling device into the channel after sufficient residence time to improve water quality.
- In-channel detention ponds may be created within certain select portions of the new East Creek channel, although off-line detention facilities are preferred because of their easier maintenance capabilities. "On-line" ponds differ from off-line facilities in that small amounts of runoff would receive water quality filtration by passing at low velocities along the low-flow component of the channel bottom, designed as a grassy swale. Small (approximately 2 foot) check dams and drop structures would be used to create ponds within the channel bottom for filtration and settling.

The detention ponds would be sized in order to capture the first half-inch of rainfall from directly connected areas within the Urban Area, thereby capturing an anticipated 80% of the total annual runoff volume. By using these methods as much as practical, approximately 80 to 85% of the Urban Area's impervious surfaces can be "disconnected" from direct routing into the underground storm drain system, allowing for bio-filtration of pollutants prior to discharge into creeks or arroyos.

Policy 6.5.2 Biofilters. In an effort to reduce stormwater pollution associated with the anticipated development of the North Livermore Plan Area, the Project shall provide bio-filters (i.e., swales and vegetated channels that treat concentrated flow, and strips which run parallel to the contributing surface) as necessary to maintain local water quality.

- a) Swales shall be wide and shallow enough to maximize contact of runoff with vegetation, and sized appropriately to meet applicable Regional Water Quality Control Board criteria.
- b) Swales should be included in side yards of single-family residential lots, and between the curb and sidewalk of arterial streets.
- c) Runoff from parking lots in commercial areas and public use areas should be directed as sheet flow across lawn areas or other suitable filter media.

Policy 6.5.3 Detention Ponds. Detention ponds shall be constructed as necessary to maintain local water quality (see Figure 6.4).

- a) Extended duration ponds should be developed off-line from both Cayetano Creek and East Creek. These ponds may be dry between storms except for excess runoff from over-irrigation within the Urban Area. Storm water from low intensity storms should be trapped in these ponds, and released over a 24 to 40 hour period.
- b) Extended duration ponds should be designed to blend in with other landscaping in the vicinity, and lend themselves to passive or active recreational uses.

Policy 6.5.4 Vegetated Channels. Drainage channels within the Urban Area shall be landscaped to enhance riparian habitat values.

- a) The creek's low flow channel shall be grass lined, but without significant vegetative cover. Lining of channel gutters with concrete shall be prohibited.
- b) Adjacent to but above the low flow channel, riparian habitat shall be established.

- c) Necessary channel stabilization may be achieved with occasional non-grated rock rip-rap or erosion control blankets.

WATER QUALITY DURING CONSTRUCTION

On-site grading activities would result in an increased potential for soil erosion, resulting in an increased sediment load in storm water runoff. Increased sedimentation can substantially degrade water quality in downstream drainages. Additionally, the operation of construction equipment and other construction activities could result in the release of contaminants into the soil, which may then be transported by storm water runoff during wet weather events into downstream drainages.

Policy 6.5.5 Storm Water Pollution Prevention Plan. Prior to issuance of a mass grading permit for the Plan Area, project developers shall file a notice of intent to comply with the California State Water Resources Control Board's General Construction Activity Stormwater Permit (currently required for any development that would disturb more than five acres of land) under the National Pollutant Discharge Elimination System (NPDES).

- a) All requirements pursuant to the NPDES permit shall be complied with to minimize pollution of stormwater during construction activities.
- b) A Stormwater Pollution Prevention Plan (SWPPP) shall be required for all residential projects and/or commercial facilities to be built within the Plan Area.
- c) A detailed Drainage and Erosion Control Plan shall be prepared and submitted to the City Engineering Division that indicates that proper control of sedimentation, siltation and other pollutants will be implemented per NPDES permit requirements. This plan shall implement Best Management Practices that may include:
 - i. Use of sediment basins, sediment traps, silt fences, and straw bale dikes
 - ii. Gravel construction entrances
 - iii. Maintenance programs
 - iv. Hydro-seeding of recently graded areas

Policy 6.5.6 Grading Restrictions. Rough or mass grading activities shall not begin between the period of October 16 and March 31 of any year to prevent grading activities during the rainy season.

6.6 FLOOD PREVENTION AND FLOOD CONTROL

INTRODUCTION AND BACKGROUND

According to the 1997 Federal Emergency Management Agency (FEMA) Flood Insurance Study, the 100-year peak flow is contained primarily within upper reaches of Altamont Creek and Cayetano Creek. However, 100-year flows overtop the banks of these creeks along flatlands in the valley. Flooding also occurs along Arroyo Las Positas at the base of the Altamont hills (east of Altamont Creek and north of Arroyo Seco). A berm or levee located along the south banks of Arroyo Seco and Arroyo Las Positas protects properties between the creek and the freeway from flooding.

Off site, more severe flooding occurs at the confluence of Arroyo Mocho and Arroyo Las Positas near Las Positas golf course south of I-580. Downstream from this confluence, 100-year discharge is contained primarily within the channels until the confluence with Arroyo de la Laguna.

The Alameda County Flood Control and Water Conservation District, Zone 7 (Zone 7), provides flood protection throughout its service area, including the City of Livermore and unincorporated North Livermore valley. Currently, Zone 7 is in the process of up-dating its analysis of valley-wide flood flows to refine its Master Storm Drainage Plan, and to implement a new development fee to financially support its plan.

ON-SITE FLOOD PROTECTION

The drainage system improvements proposed as part of the Plan will have the effect of containing anticipated 100-year flood flows within the Cayetano Creek and East Creek channel banks, thereby removing adjoining properties proposed for residential use from the 100-year flood plain. Existing out of bank flooding conditions will be contained within the proposed new and widened channels. However, in order to prevent flooding of proposed commercial development in certain low areas located primarily east of Altamont Creek and north of Arroyo Seco, this area would be removed from the flood plain by filling the area and lowering the elevation of flood flows as a result of channel improvements. Additionally, a berm or levee would be constructed along the south banks of Arroyo Seco and Arroyo Las Positas to protect properties between the creeks and the freeway from flooding.

Goal: To Ensure that New Development within the Plan Area is Protected from Potential Flooding Hazards

Policy 6.6.1 Flood Zones. New development within the Urban Area located within areas with potential flooding hazards shall not be approved, unless it can be demonstrated based on site-specific analysis that feasible measures will be implemented to reduce the potential flooding risk to acceptable levels.

- a) Prior to approval for development in any area which has been identified as within the 100-year flood zone by either the Federal Emergency Management Agency (FEMA) or the Alameda County Flood Control and Water Conservation District (Zone 7), detailed hydrological studies shall be conducted to determine the limits and water surface elevation of the 100-year storm.
- b) Areas identified for development that are located within the existing floodplain shall be removed from the 100-year flood zone through construction of acceptable and appropriate flood control improvements along Cayetano Creek, East Creek, Arroyo Las Positas and Arroyo Seco that lower water surface elevations and reduce the extent of flooding along certain flood prone reaches.

OFF-SITE FLOOD CONTROL

The improved storm water conveyance facilities will have the effect of delivering runoff from the site into the Arroyo Las Positas more quickly than runoff is delivered into the Arroyo under existing conditions. By reducing the delivery time of runoff from the Plan Area into Arroyo Las Positas, the peak runoff from the Plan Area enters the Arroyo well ahead of Arroyo Las Positas' peak flood flows from the upstream watershed. The net result is to reduce the peak flows exiting the Plan Area at the furthest downstream point (west of the convergence of Arroyo Las Positas and Cottonwood Creek).

Goal: Ensure that Development of the Plan Area Does not Place Downstream Properties at Greater Risk of Flooding.

Policy 6.6.2 Limits on Peak Period Discharges. Peak period discharge rates shall not increase off-site flood hazards, nor contribute significantly to exceeding the designed capacity of any off-site drainage facilities.

Policy 6.6.3 Adequate Regional Flood Control Facilities. New development within the Plan Area shall be responsible for paying its fair share of the cost associated with providing adequate regional flood control facilities.

- a) Payment of applicable Zone 7 drainage fees shall be the means by which new development pays for its obligation to fund regional flood control improvements.

Volume II, Policy 6.6.4: Reach "A" Improvements to Arroyo Las Positas.

New development within the Urban Area shall be responsible for implementing improvements to the Arroyo Las Positas from its confluence with Arroyo Seco to I-580 in order to increase the capacity of the channel, reduce erosion and provide for pedestrian and maintenance access. Such improvements shall not increase the water surface elevation of existing channels upstream of the proposed improvements.

- a) As part of the construction of Las Colinas Road and Calle Las Positas, significant fill is anticipated to be needed at the intersection of these two roads to protect it from flooding. During this grading and construction operation, improvements to the adjacent reach of Arroyo Las Positas should be accomplished.
- b) improvements to this section of the Arroyo Las Positas shall consist of the following:
 - i. side benches shall be created within the channel banks above the existing vegetation line in those portions of the channel where it is constricted or narrow, increasing the capacity of the channel to accommodate peak 100-year storm events,
 - i. steep channel banks will be layed back to a 3:1 slope, and rocks and riparian vegetation shall be applied to stabilize the slopes and reduce erosion, and
 - iii. a multi-use trail and maintenance road shall be constructed above the channel banks.
 - iv. if access to the City's existing north sewer trunk line is restricted, or if manhole elevations are subject to flooding as a result of these improvements, the existing sewer trunk line shall be relocated to the street right-of-way and/or the existing manhole ring shall be raised above the floodplain.
- c) The Project shall be required to obtain any and all permits necessary to construct these improvements, which may include US Army Corps of Engineers 404 permits, California Fish and Game streambed alteration agreements, Regional Water Quality Control Board 401 water quality permits, and other permits and approvals as may be necessary from Zone 7 and FEMA.

Volume II, Policy 6.6.5 Arroyo Las Positas Improvements Through the Las Positas Golf Course. New development within the Plan Area shall be responsible for paying its proportionate share of the cost associated with improved conveyance facilities along or within the Arroyo Las Positas as needed

to alleviate cumulative flooding conditions during less than 100-year storm events. Any such improvements to the conveyance facilities within the golf course shall be designed to ensure that there be no significant increase in downstream flood flows over current conditions.

- a) The City of Livermore shall coordinate with Zone 7 (the agency with authority for regional flood control planning and facility improvements), and seek to include possible solutions to the cumulative out-of-bank flooding problems at the Las Positas Golf Course as part of Zone 7's Drainage Improvement Plan.
- b) As a first step in this process, Plan Area landowners in North Livermore shall fund a study to identify conveyance improvements necessary to alleviate the existing flooding problems that occur within this area. A preliminary list of such improvements is expected to include:
 - i. a regular maintenance program for removing accumulated silt from within the channel, particularly at bridges and other in-channel structures within and near the golf course,
 - ii. improvements to drainage facilities within the golf course area, allowing more playable golf areas (fairways, tees and greens) to be elevated above the flood level such that the remaining low-lying portions of the golf course would continue to provide out-of-bank storage of flood waters,
 - iii. removal of existing constrictions within the channel through the golf course reach which contribute to existing backwater conditions, and
 - iv. establishment of an acceptable floodplain, preferably within areas set aside as airport clear zones or other open space areas downstream of the golf course, where flood flows can be allowed to overtop the banks to provide temporary out-of-bank storage and thereby not significantly increase existing downstream flood flows.
- c) Should Zone 7 accept such a program and include it as part of the regional Drainage Improvement Plan, then payment of Zone 7 drainage fees (updated as necessary to account for such a program) shall be the means by which new development pays for its obligation to participate in the implementation of these improvements.
- d) If this program is not incorporated into Zone 7's planning efforts, then the City of Livermore should consider undertaking these improvements, including preparation of a methodology for determining the proportionate share of the Plan's funding obligation. The costs for preparing the study identified under b) above shall be credited against this potential funding obligation.

6.7 ENERGY AND COMMUNICATIONS

The Pacific Gas and Electric Company (PG&E) provides electricity and natural gas within the Livermore area. PG&E operates several electrical substations in the vicinity of the Plan Area, including the Vasco substation south of I-580. No substations are located north of I-580, and electrical needs for these areas are provided via overhead transmission lines and underground distribution lines from the Vasco substation.

On a cumulative basis, the amount of new population and employment growth projected for eastern Alameda County is sufficiently great that expansion of existing energy facilities and possibly identification of new energy sources will be necessary. PG&E has indicated that the cumulative demand for electrical service for all anticipated development north of I-580 will necessitate construction of new transmission facilities into the area.

ELECTRICAL SYSTEM

Development within the Plan Area will need power delivered from two connections:

- The first likely connection will be from existing Las Positas substation south of I-580. Distribution-level power would run via underground lines into the Plan Area.
- The second electrical supply connection is anticipated to be delivered from a new PG&E substation to be developed pursuant to PG&E's upgrade project. This new substation would be located in the northerly portion of the Plan Area, and connected to a new transmission line anticipated to be constructed within the PG&E right-of-way near Manning Road. Final site selection and acquisition, planning, design and construction of such a new substation would be expected to take approximately 5 years to complete. This new station would be connected via overhead transmission lines to the Urban Area.

Within the Urban Area, electrical distribution lines will run underground within a public utilities easement adjacent to the internal road system at the back edge of the sidewalk.

- The distribution lines will be linked to fuse switches and capacitors which will be located above ground for maintenance access. These capacitors will be located within open space areas where they can be easily hidden by landscaping.

- For each grouping of 10 to 15 homes, a transformer will be required. In those areas within the Project where high groundwater is not an issue, these transformers will be located within underground vaults. Where high groundwater presents difficulties (primarily near the Springtown Alkali Sink area), these transformers will be pad-mounted above ground and concealed with landscaping.

Policy 6.7.1 Utility Services. Project developers shall coordinate with the appropriate service vendors (PG&E, PacBell, etc.) to provide electrical, gas and telecommunications services to the Plan Area.

- a) Within the Urban Area (Zone A) all utility transmission and distribution lines shall be placed underground.
- b) Siting for all gas, electrical and telecommunication service facilities shall minimize visual and noise impacts on future residents. Any above ground facilities necessary should be landscaped in such a manner as to hide the facilities, and placed within public open space areas where practicable.

ENERGY CONSERVATION

Pursuant to Title 24 of the California Code of Regulations (Energy Conservation Standards), home builders throughout the Plan Area will be required to meet specified energy performance budgets based on local climate conditions and building types. Additionally, the California Subdivision Map Act requires the design of subdivisions to "provide, to the extent feasible, for future passive or natural heating or cooling opportunities."

NATURAL GAS

PG&E has several natural gas pipelines that traverse the East County, and 5 oil pipelines that traverse the northeast portion of the County. A 24" natural gas pipeline traverses the Plan Area from southwest to northeast. This gas main is located within a 15-foot easement owned by PG&E. If this gas main is to remain in its present location, it would cut through planned residential neighborhoods, across the proposed Cayetano Creek open space corridor and creek channel, and through the Village Core land uses.

Resolution of final plans for the disposition of the existing gas main have not as yet been finalized, but following policy provided guidance on this issue:

Policy 6.7.2 Existing Gas Main. Development within the Plan Area must provide for the continued safe operation and maintenance of gas transmission facilities through the area. This may be accomplished by:

- a) Participating with PG&E in the relocation/ replacement of this gas main within an alignment that does not conflict with future planned development. Acceptable relocation alignments may include creek open space corridors or arterial streets.
- b) Preparing a land plan that avoids the gas main, providing PG&E with acceptable access to the facility, and ensuring that new construction does not jeopardize the integrity of the line.
- c) A combination of the above.

COMMUNICATION

The development of approximately 12,500 homes and supporting non-residential facilities in the Plan Area would result in an increased demand for communications services of all types. However, as a utility provider, it is anticipated that Pacific Bell will expand its services as necessary to serve new development in the Plan Area.

SOLID WASTE DISPOSAL

Development within the Plan Area will generate a significant increase in the demand for solid waste collection and disposal. The following policy provides for a reduction in the volume of solid waste generated by the Plan both during construction and throughout the life-time of the Plan.

Policy 6.7.3 Source Reduction and Recycling. Project developers shall incorporate the following techniques designed to maximize source reduction and use of recycled materials, consistent with City permitting requirements:

- a) Curb-side recycling service shall be provided for all single-family and multi-family dwellings
- b) Recycled material collection facilities shall be provided at all multi-family residential complexes and commercial business within the Village Core
- c) A centralized location shall be designated as a site for a community recycling facility.

CHAPTER SEVEN:

COMMUNITY DESIGN

INTRODUCTION

This chapter provides policies, development standards and design guidelines to ensure a high quality of development in public and private areas of North Livermore. The application of these requirements is intended to integrate diverse areas that may develop over an extended period of time through the consistent treatment of common site and building conditions. To ensure a cohesive and unique character for North Livermore and yet allow flexibility for individual developments, design guidelines for landscape and site elements along major public corridors, primary public open spaces and public uses should be the most consistent in treatment and appearance. Treatment of other areas serving individual developments may exhibit greater variety.

The design standards contained in this chapter represent the best intent to create a distinct image and quality of development in North Livermore. Based on experience gained during the development of Phase 1, specific standards may need to be clarified or revised in order to better meet site specific conditions or to simplify the review and enforcement process by the City.

Where these standards and guidelines conflict with general provisions of City zoning and development standards, these Specific Plan standards and guidelines shall apply. Where this Specific Plan does not provide an applicable provision, the City's ordinances and development standards shall apply.

Related provisions may be found as follows:

- Chapter Two: Land Use - Land use regulations including residential densities and zoning.
- Chapter Three: Transportation & Circulation - Roadway standards.
- Chapter Five: Community Services & Facilities - Parks and open space including the creek corridors; schools; development standards for fire protection.
- Chapter Eight: Implementation - Specific Plan administration and implementation.

Provisions within this chapter include:

7.1 DEVELOPMENT STANDARDS

LOT AND STRUCTURE STANDARDS

This section provides standards governing the relationship of buildings to parcels, streets and adjacent structures.

Policy 7.1.1 Lot and Structure Standards. Development shall comply with Tables 7.1 and 7.2: Lot and Structure Standards and the following provisions:

- a) The density range of the residential land use designations (see Chapter Two) may overlap with the adjacent range. For example, developments at a density of eight homes per acre can be built in both the Medium (RM) and the Medium-High (RMH) residential designations. To accommodate this overlap, the Lot and Structure Standards are organized under both land use designation and lot size definitions. Asterisks in column one of Table 7.1 and 7.2 define the lot sizes that are appropriate within each of the land use designations.
- b) Lot size as referred to in Table 7.1 means the size of the residential lot predominant (i.e., at least 85%) in a subdivision tract. Odd shaped lots, which might occur at the ends of cul-de-sacs, shall meet the lot standards of the predominant lot size. For example, a subdivision comprised of predominantly 4,500 to 6,000 square foot lots may contain a few lots which are larger than 6,000 square feet in size. In such cases, the larger lots would be allowed the standard prescribed for the 4,500 square foot lots. Minimum average lot width and depth shall be calculated consistent with City standards.
- c) Minimum front yard setbacks for buildings that front onto arterial streets may be reduced to zero (0) feet (see Figure 7.7).
- d) Minimum front yard setbacks for attached residential buildings shall be increased five feet (5') for each additional story over one story. Stairstep designs, i.e. buildings with first story setbacks of 0', second story setbacks of 5' and third story setbacks of 10', are permitted.
- e) Side yard setbacks may be reduced to zero (0) feet on one side, provided that minimum building separations are maintained.
- f) Corner lot side yards facing a street shall meet minimum front yard setback requirements.
- g) For lots 4,500 square feet or larger, rear yard setbacks shall be increased by five feet (5') for units with a two story facade set at the rear setback line. Stairstep designs, i.e. buildings with second story facades setback 5' from first story facades, are permitted.
- h) Minimum front yard setbacks apply to each individual building. Average front yard setbacks shall be calculated for each release.

- i) Floor Area Ratio (FAR) includes habitable space and attached garages. Detached garages up to 400 square feet in area are not included. A breezeway connection is permitted between houses and detached garages. In a Tentative Map, all garages are to be excluded from FAR calculations if 50 percent or more of the homes within the map provide detached garages.
- j) Each tentative map shall not exceed the Average FAR shown in Table 7.1. Average FAR is calculated by dividing the total habitable space plus attached garages not qualifying for exemption under 7.1.1 i), divided by the total lot area. Average FAR may also be calculated based on the permitted mix of housing units as compared to the actual total square footage of lots in the tentative map. If the permitted mix exceeds the average permitted, then the allowable average FAR on individual lots will be evaluated on a release by release basis as long as the overall release meets the Average FAR. A release is defined as all homes receiving building permits at the same time.
- k) The Maximum FAR allowed for any single lot shall not exceed the Average FAR plus 0.10. Each model will be used on not less than 15% nor more than 35% of the lots in the subdivision for up to a four model complex, or not less than 10% or more than 30 % of the lots in a subdivision for a five or more model complex.
- l) Small lot projects of 3,500 square feet and smaller proposed for standard lot configurations consistent with the basic cluster standards included in this Specific Plan (see Figure 7.2) will be processed as tentative maps with no need for a Planned Development submittal. Auto court or cluster projects wishing to propose standards other than those included in this Plan shall be processed as Planned Development (PD) projects (see Chapter Eight for processing requirements). Alternative development standards may be established during the PD zoning process. In general, applicable policies described in Section 7.4 are intended to apply to small lot tentative maps wherever such projects abut public streets and are adjacent to different land uses or densities.
- m) For cluster projects, all units shall provide one rear yard. Remaining yards shall be side yards or street frontage yards, as applicable.
- n) Lots smaller than 3,500 square feet shall be subject to a 0.65 maximum lot coverage standard rather than an FAR.
- o) Secondary dwelling units are allowed on all lots greater than or equal to 6,000 square feet in total lot area.
- p) Lots may be reduced to 2,500 square feet for affordable units, not to exceed 20% of units within a tentative map.

- q) For garage and driveway setbacks and requirements, see Section 7.4.

PARKING

Policy 7.1.2 Parking. Off-street parking shall conform to the requirements of the City's Zoning Ordinance, except as modified by this Specific Plan.

- a) Guest parking for single family detached homes on lots of less than 5,000 square feet, shall be provided within 200 feet of the front door of each home. Such parking shall be provided at a rate of one space per unit.
- b) Off-street parking for non-residential uses in the Village Core mixed use district shall be provided at a minimum ratio of one parking stall per 250 square feet of floor area, unless the use fronts directly on a public street, then a minimum ratio of one parking stall per 500 square feet of floor area shall be provided.
- c) Parking shall be provided on all streets within the Village Core, including North Livermore Avenue and Hartman Road, with additional off-street parking provided at the rear of the buildings, in interiors of blocks, or beneath buildings. On street parking on the arterial streets shall be limited to parallel parking. Diagonal parking shall be provided along Market Street and all streets fronting the Village Commons.
- d) Shared parking shall be utilized to the extent possible, in order to reduce the required minimum number of parking spaces. In general shared parking may be utilized by uses with demonstrated lower parking demand, different peak demands, and which are located within 400 feet of the uses to be served.
- e) Large, unbroken expanses of parking shall be avoided. See Policy 7.11.5 for landscape standards applicable to parking lots.
- f) For second units, parking shall be provided at a rate of one additional parking space per unit.
- g) Standard parking stalls shall be 9 feet wide x 19 feet long. Compact spaces shall be 9 feet wide x 16 feet long and may comprise 30% of total required off street parking.
 - i. The paved parking stall length may be decreased by up to two feet by providing a vehicle overhang area into adjacent landscape areas or walkways.
 - ii. Parallel parking stalls shall be a minimum of seven feet in width.
 - iii. See City Zoning Ordinance for aisle widths and additional requirements.

Table 7.1: Residential Lot And Structure Standards

Land Use	Lot Standards (1)				Min Building Setbacks						Building Standards			
					Street Frontage Yard (2)	Side Yard		Rear Yard			Bldg Separation (3)		Max Ht	FAR (4)
	Lot Size (sf)	Min Avg Width	Min Width at Street	Min Depth	(Min/Avg) (9)	Bldg (min/tot)	Garage	Bldg	Garage (8)		Bldg/Bldg	Bldg/ Garage	(ft.)	Avg.
Figure Reference Key (Figures 7.1 through 7.4)					A/B	C	D	E	F		G	H		
R-VL R-L R-M R-MH R-H														
* *	>15,000	100	75	120	25/30	15/30	5	30	5(5)		30	20	35	0.31
* * *	>10,000	80	50	100	15/20	15/30	5	20	5(5)		30	20	35	0.34
* * *	>8,000	65	50	100	15/20	0/15	0	20	5(5)		15	10	35	0.42
* * * *	>6,000	45	40(7)	90	15/20	0/10	0	15	5(5)		10	10	35	0.47
* * *	>4,500	40	35(7)	70	10/15	0/10	0	10	5(5)		10	10	35	0.55
* * * *	>3,500	35	30(7)	70	10/15	0/8	0	10	0		8	8	35	0.65
* * * *	<3,500	35	30(7)	65	10/15	0/6	0	10	0		6	6	35	na(4)
ATTACHED RESIDENTIAL	Min Site (sf)													
* *	10,000	100	50	100	10/20(6)	10	5	10	5		20	20	35	-
*	10,000	100	50	100	10/20(6)	15	5	15	5		30	25	45	-
VC	5,000	50	35	100	0/5	0/5	0	10	0		5	0	35	-
VC	5,000	50	35	100	0/10	0	0	10	0		0	0	45	-

(1) Calculated per City of Livermore Standard (see Figure 7.5)

(2) For Garage Setbacks, see Section 7.4.

(3) Applies to buildings on separate lots for detached uses. Applies to buildings on the same lots as well as separate lots for attached uses.

(4) See Policy 7.1.1.

(5) Add five feet (5') to rear yard garage setback for two story structures (see Policy 7.1.1(g)).

(6) Add five feet (5') for each additional story over the first story.

(7) Requires single width drive (10') to accommodate street trees.

(8) Rear yard setback for garages served by rear alleys may be reduced to zero (0) feet, with no additional rear second story setback.

(9) Average setback shall be calculated for each release.

Table 7.2: Non-Residential Site and Structure Standards

Land Use	Minimum Site Standards (1)			Minimum Setbacks						Building Standards	
				Street Frontage Yard		Side Yard		Rear Yard		Max Ht	Max FAR
	Site Size (sf)	Width at Street	Min Depth	Bldg	Parking	Bldg	Parking	Bldg	Parking	(ft)	
Mixed Use / Village Core (VC)	≥5,000	25	100	0	10	0	5	10	5	45	1.00
Support Commercial (CS)	≥12,500	150	100	20	25	20	10	10	10	35	0.35
Institutional And Community Facilities (2)	≥5,000	25	100	15	25	15	10	10	10	35	0.35

(1) Calculated per City of Livermore Standard.

(2) Outside Village Core.

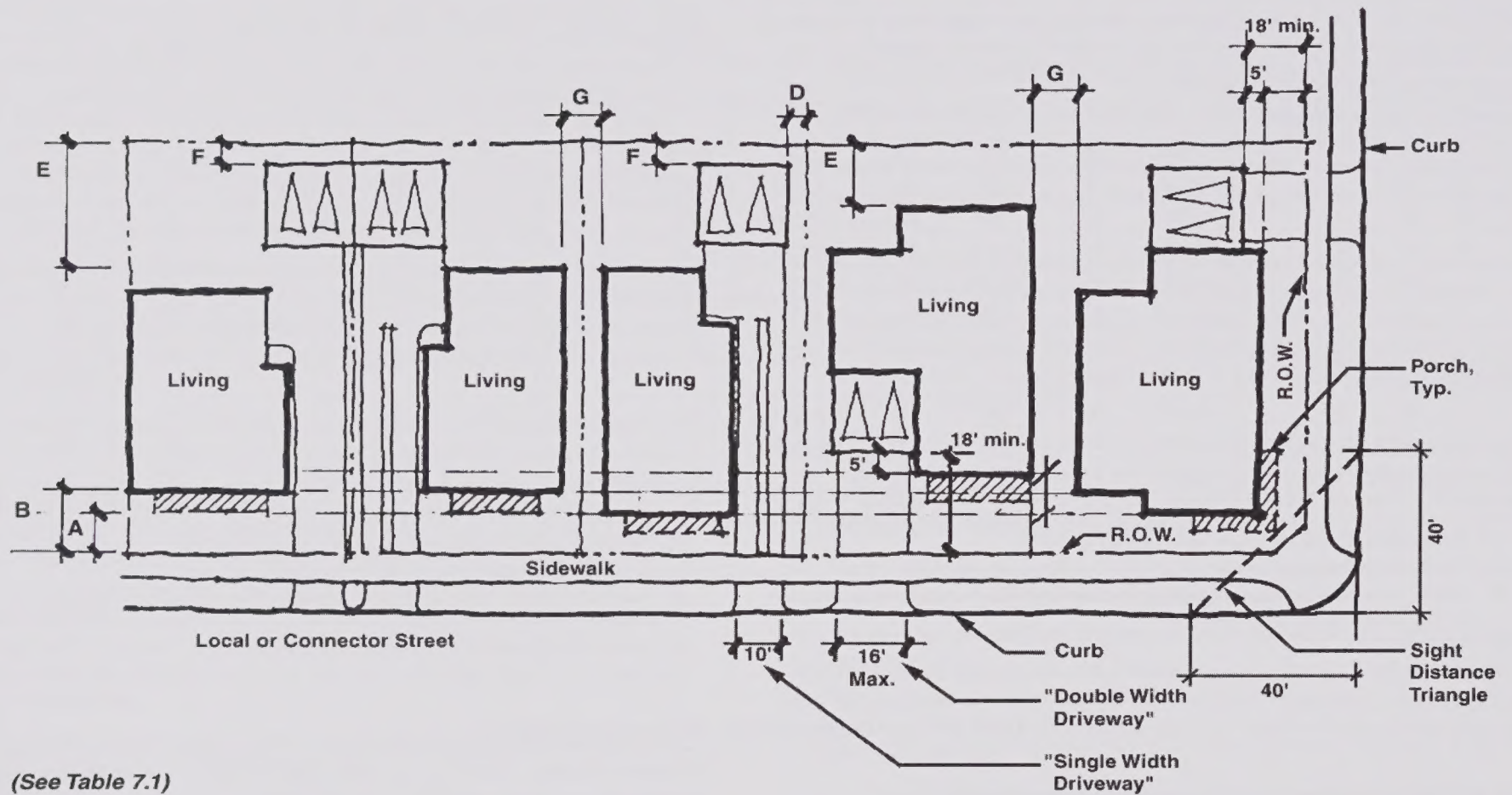


FIGURE 7.1: RESIDENTIAL SETBACKS – DETACHED

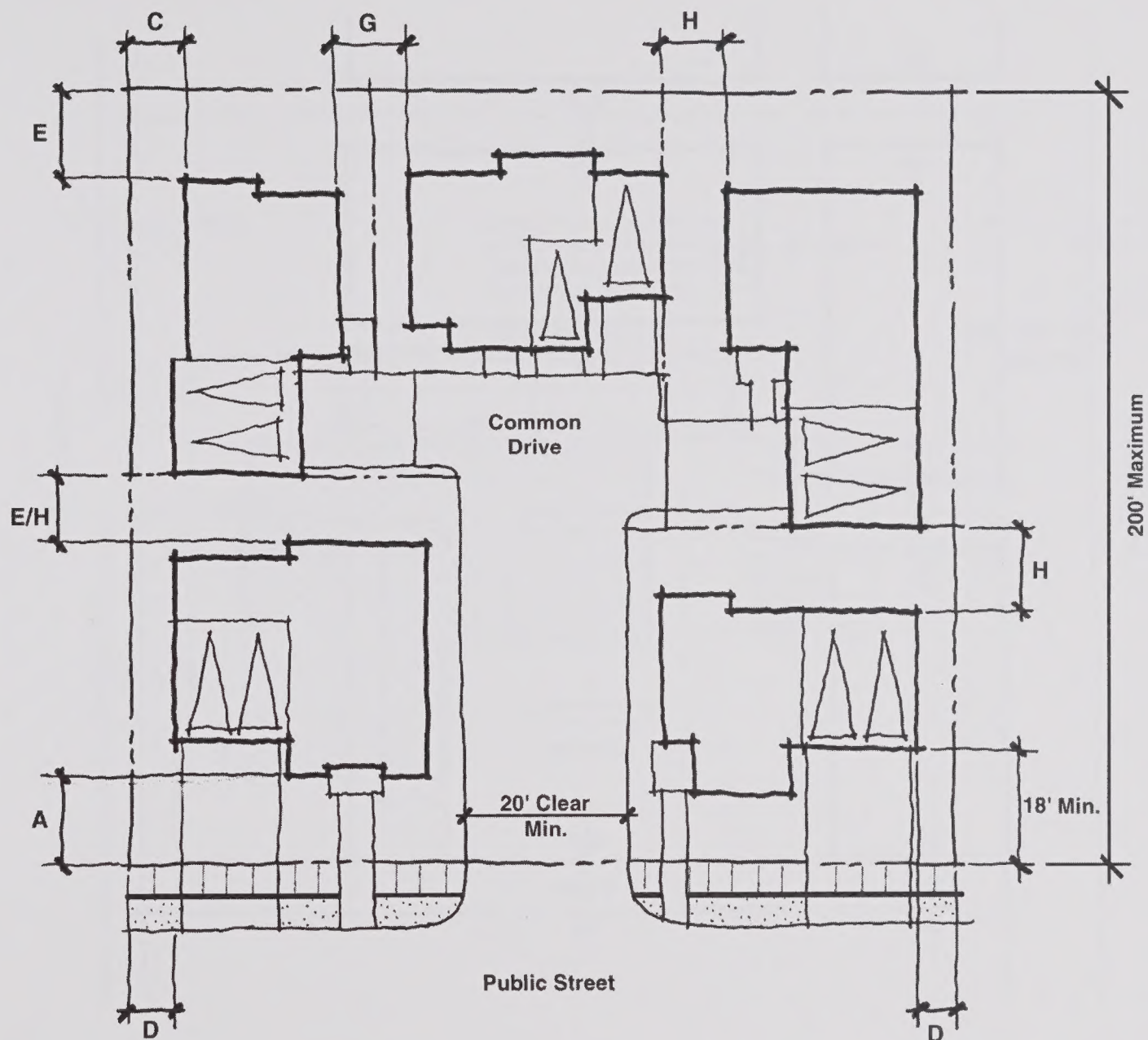


FIGURE 7.2: RESIDENTIAL SETBACKS – DETACHED AUTO COURT

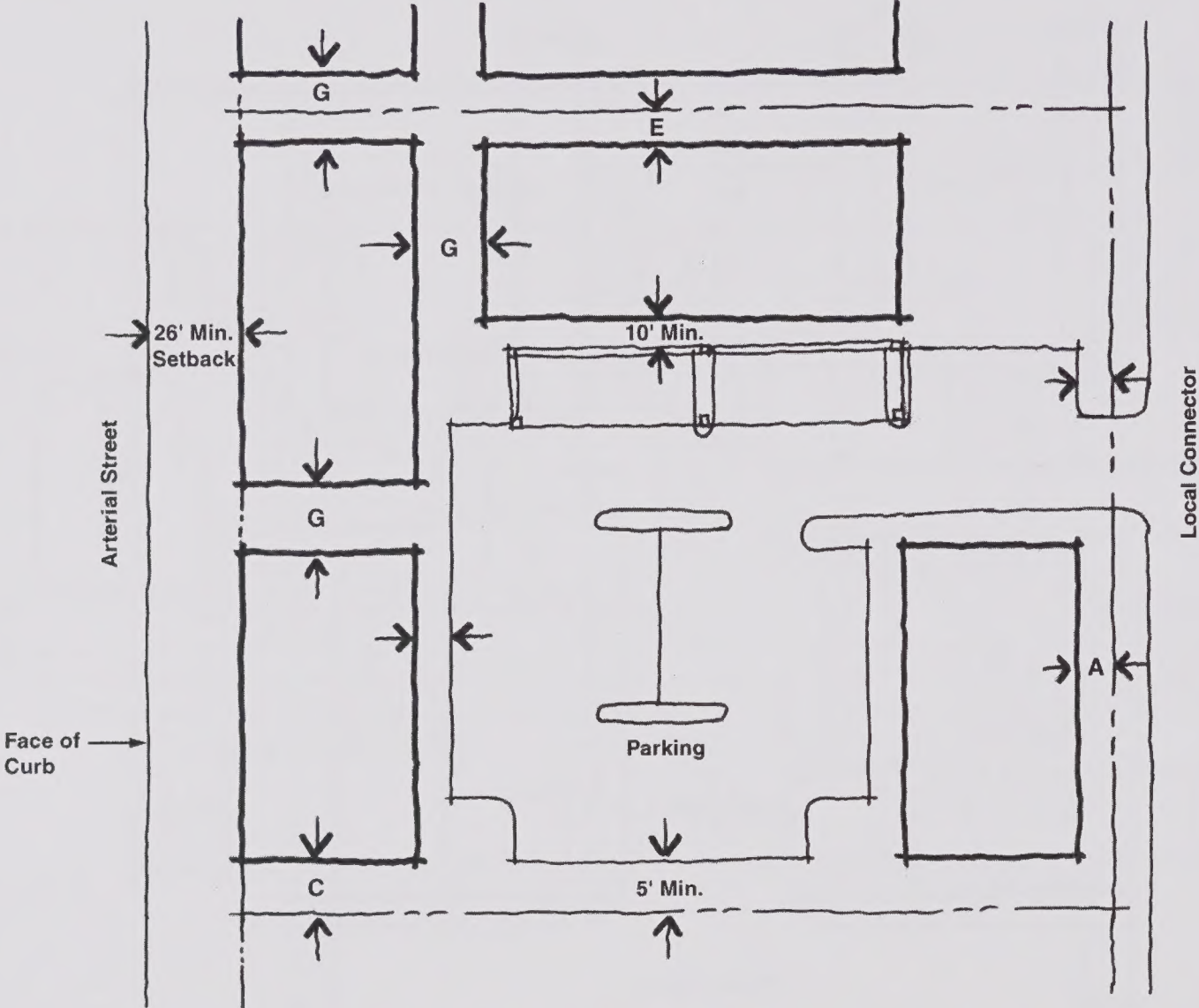


FIGURE 7.3: RESIDENTIAL SETBACKS – ATTACHED

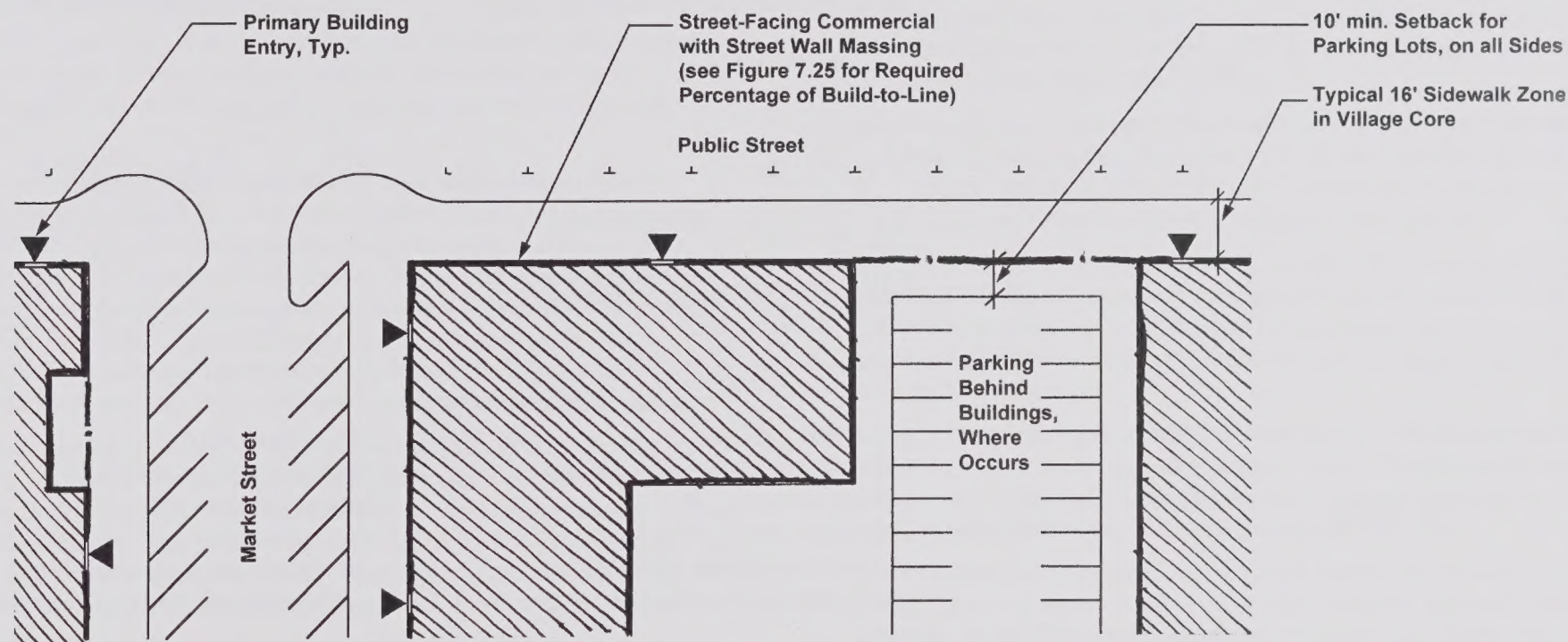
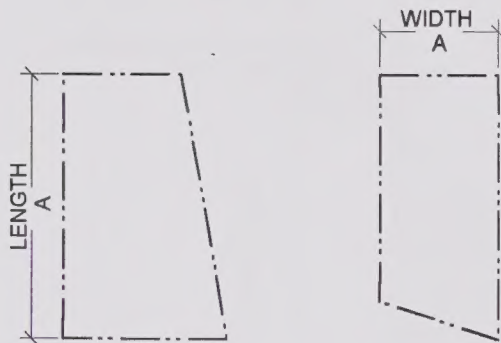


FIGURE 7.4: VILLAGE CORE SETBACKS

EXAMPLE A:
LOTS WITH PARALLEL OPPOSITE SIDES:

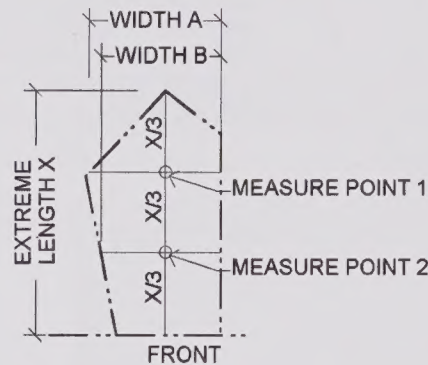


$$\begin{aligned} \text{LOT AREA} &= \text{__SQ.FT.} \\ \text{LENGTH A} &= \text{__FT.} \\ \text{LOT WIDTH} &= \frac{\text{LOT AREA}}{\text{LOT LENGTH}} \end{aligned}$$



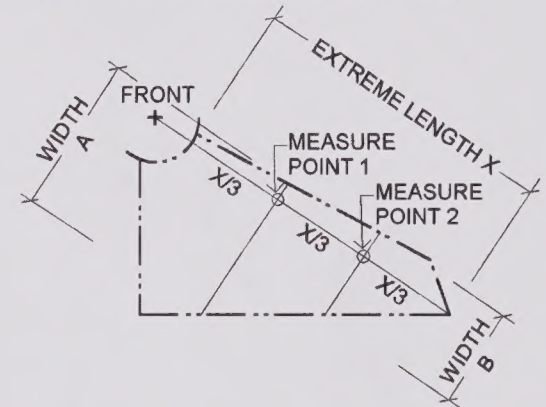
$$\begin{aligned} \text{LOT AREA} &= \text{__SQ.FT.} \\ \text{WIDTH A} &= \text{__FT.} \\ \text{LOT LENGTH} &= \frac{\text{LOT AREA}}{\text{LOT WIDTH}} \end{aligned}$$

EXAMPLE B:
LOTS WITH NON-PARALLEL OPPOSITE SIDES:
(WITH STRAIGHT FRONT PROPERTY LINE)



$$\begin{aligned} \text{LOT AREA} &= \text{__SQ.FT.} \\ \text{EXTREME LOT LENGTH X} &= \text{__FT.} \\ \text{WIDTH A AT MP1} &= \text{__FT.} \\ \text{WIDTH B AT MP2} &= \text{__FT.} \\ \text{LOT WIDTH} &= (\text{WIDTH A} + \text{WIDTH B})/2 \\ \text{LOT LENGTH} &= \text{LOT AREA}/\text{LOT WIDTH} \end{aligned}$$

EXAMPLE C:
LOTS WITH NON-PARALLEL OPPOSITE SIDES:
(WITH CURVED FRONT PROPERTY LINE)



$$\begin{aligned} \text{LOT AREA} &= \text{__SQ.FT.} \\ \text{EXTREME LOT LENGTH X} &= \text{__FT.} \\ \text{WIDTH A AT MP1} &= \text{__FT.} \\ \text{WIDTH B AT MP2} &= \text{__FT.} \\ \text{LOT WIDTH} &= (\text{WIDTH A} + \text{WIDTH B})/2 \\ \text{LOT LENGTH} &= \text{LOT AREA}/\text{LOT WIDTH} \end{aligned}$$

FIGURE 7.5: DETERMINING LOT DIMENSIONS FOR IRREGULARLY SHAPED LOTS

7.2 NEIGHBORHOOD DESIGN

NEIGHBORHOOD LAYOUT

Policy 7.2.1 Neighborhood Layout. Residential development areas should be designed in a manner consistent with the following provisions:

- a) In hillside areas, roadways and parcels should be designed using a curvilinear pattern and graded to minimize impacts to the existing slope and the need for extensive grading. See Section 5.3 for minimization of fire hazards for homes adjacent to grassland areas.
- b) In flatter areas, roadways shall be located in a interconnected grid pattern to provide easy access between neighborhoods, orientation and an even distribution of traffic, and to maximize visibility and access to parks and schools.
- c) Site plans and associated landscape plans for each neighborhood should create a discernible neighborhood center or place of focus. Such center may include planned uses such as a neighborhood parks, creek corridors, school sites (see Figure 2.1: Land Use Plan), church sites or open space. Focus areas may also include special arrangements of streets and houses, including use of roundabouts, auto courts, median planting areas, enlarged cul-de-sacs, widened setbacks, enhanced landscaping, special paving, enhanced architectural treatments or other such means of accentuating a particular area.
- d) Neighborhoods adjacent to the creek corridors shall visually and physically incorporate the creeks into the neighborhood open space and pedestrian circulation system. Neighborhood layouts should insure that creeks are visible and accessible from public areas (see Figures 7.10: Creek Corridor Frontage Conditions, Figure 7.27: Pedestrian and Bicycle Circulation, Figure 7.28: Creek Corridor Trail Network, and Figure 5.1: Parks and Open Space Plan).
- e) In order to minimize the need for privacy walls, homes may only back onto short lengths of Connector Streets providing access into residential areas from Arterial Streets. Such streets shall generally be limited to 300 feet in length. No backing lot treatments shall be permitted beyond the 300 feet from the Arterial Street/Connector Street intersection.
- f) Homes shall front onto all local and connector streets with initial projected traffic volumes below 2,000 Average Daily Trips (ADT) - (see Figure 3.1). Except for those streets described in e) above, developers shall expand the local and connector street network through the provision of multiple access points, thereby maximizing the number of streets which carry traffic and the distribution of traffic loads from each development area, as well as maximizing the number of streets that can comfortably be developed with houses fronting the street.
 - i. If, by providing multiple access points to a development area, a developer can lower traffic volumes on connector roads within the development area to less than 2,000 ADT, residences may be allowed to front onto these streets.
 - ii. A traffic report shall be submitted to the City Engineer demonstrating how the land plan and circulation plan for the development area can achieve less than 2,000 ADT. Upon acceptance of such a report, residences may be designed to front onto these streets.
- g) For arterial streets with landscape areas greater than or equal to 35 feet (between the edge of pavement/curb and ROW), the required landscape area/ROW may be reduced by ten feet (10') when homes are located with entrances facing the arterial street, thereby eliminating the need for rear or side yard privacy walls.
- h) Pedestrian and emergency access shall be provided from local streets paralleling creek corridors and open space areas. Access may be from open-ended cul-de-sacs, stub streets, loop streets or easements between lots. Points of access shall be no more than 600 feet apart.
- i) Use of narrow pedestrian connections between lots should be minimized and used only where terrain or other site conditions preclude access directly from abutting streets. Where used, easements shall provide a functional connection and be a minimum of 25 feet in width (see Figure 7.10 and 7.11).

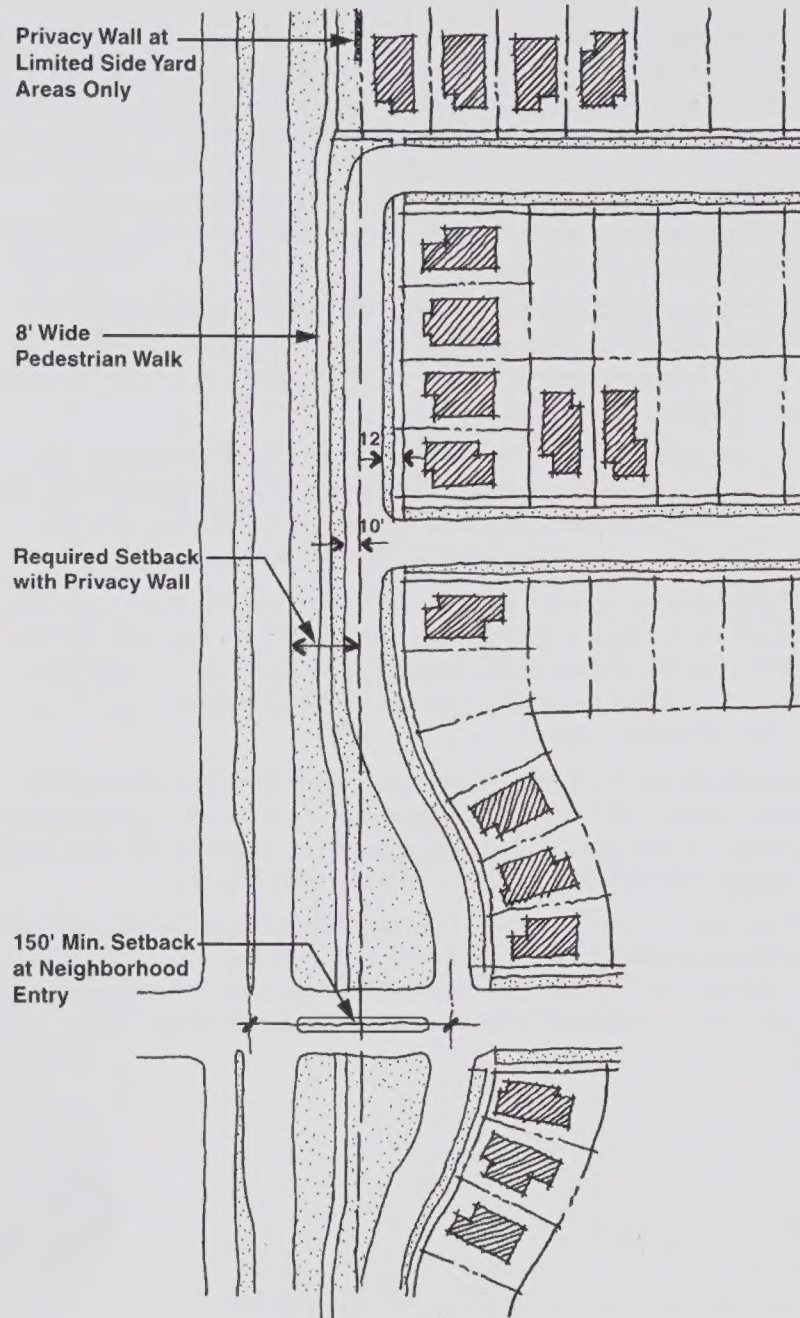


FIGURE 7.6: ARTERIAL FRONTAGE CONDITIONS – PROTOTYPE 1

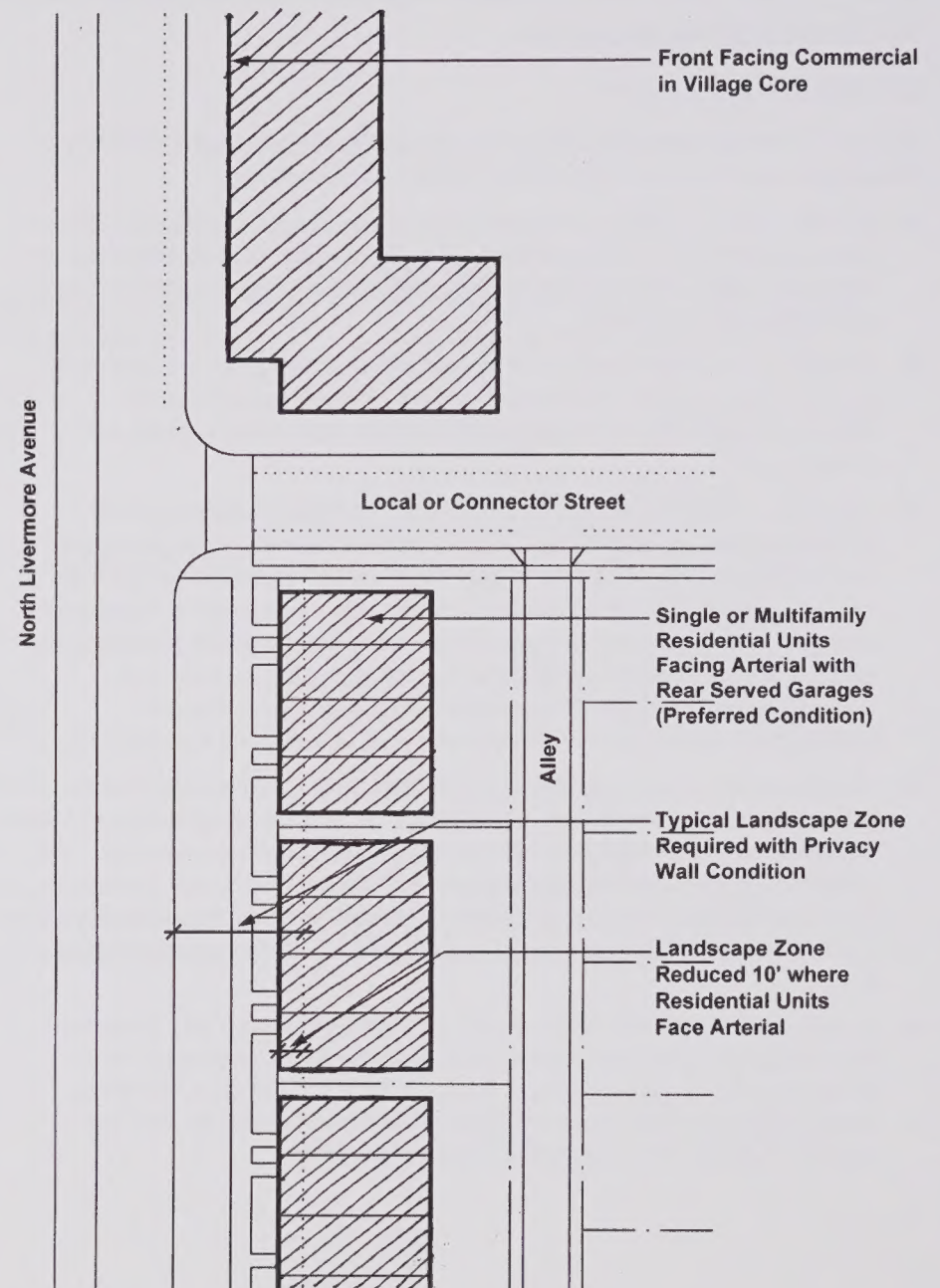


FIGURE 7.7: ARTERIAL FRONTAGE CONDITIONS – PROTOTYPE 2

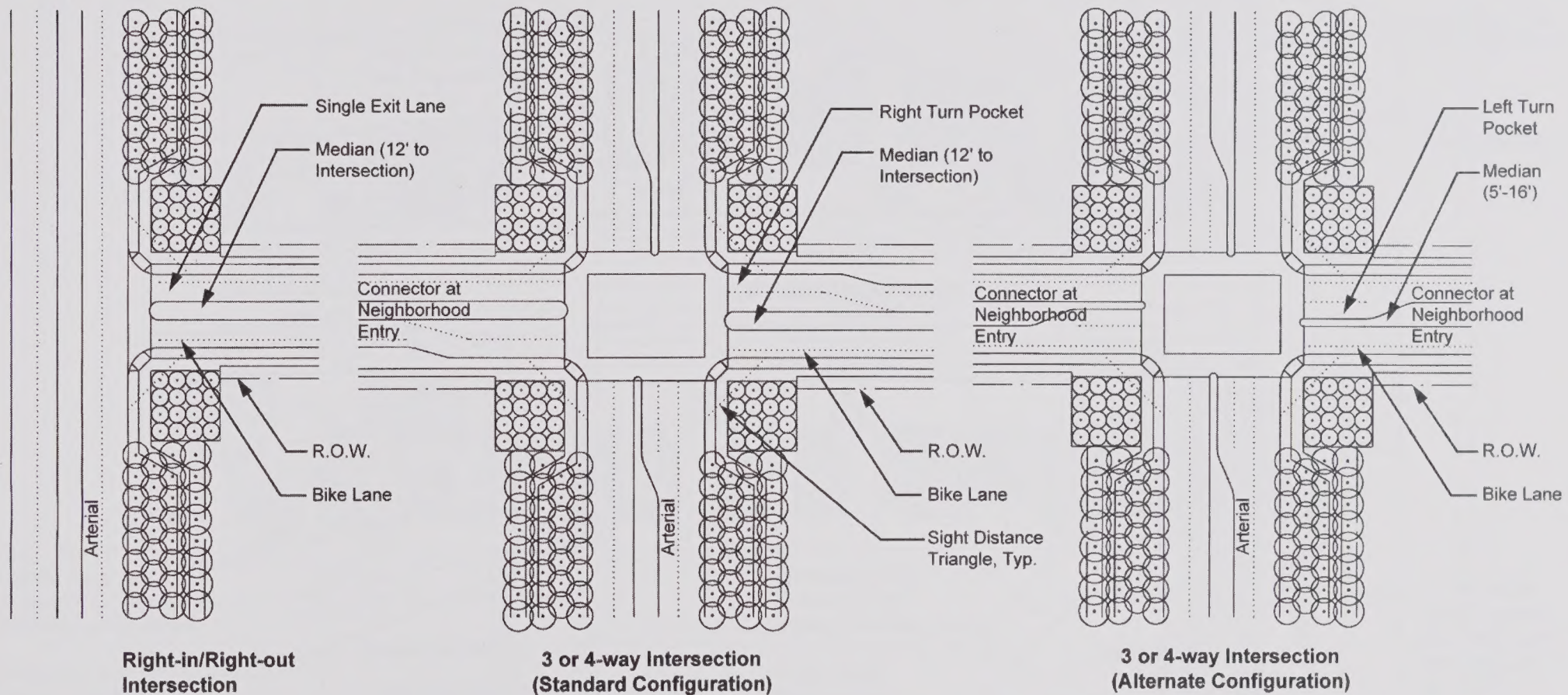


FIGURE 7.8: ARTERIAL/CONNECTOR STREET INTERSECTIONS

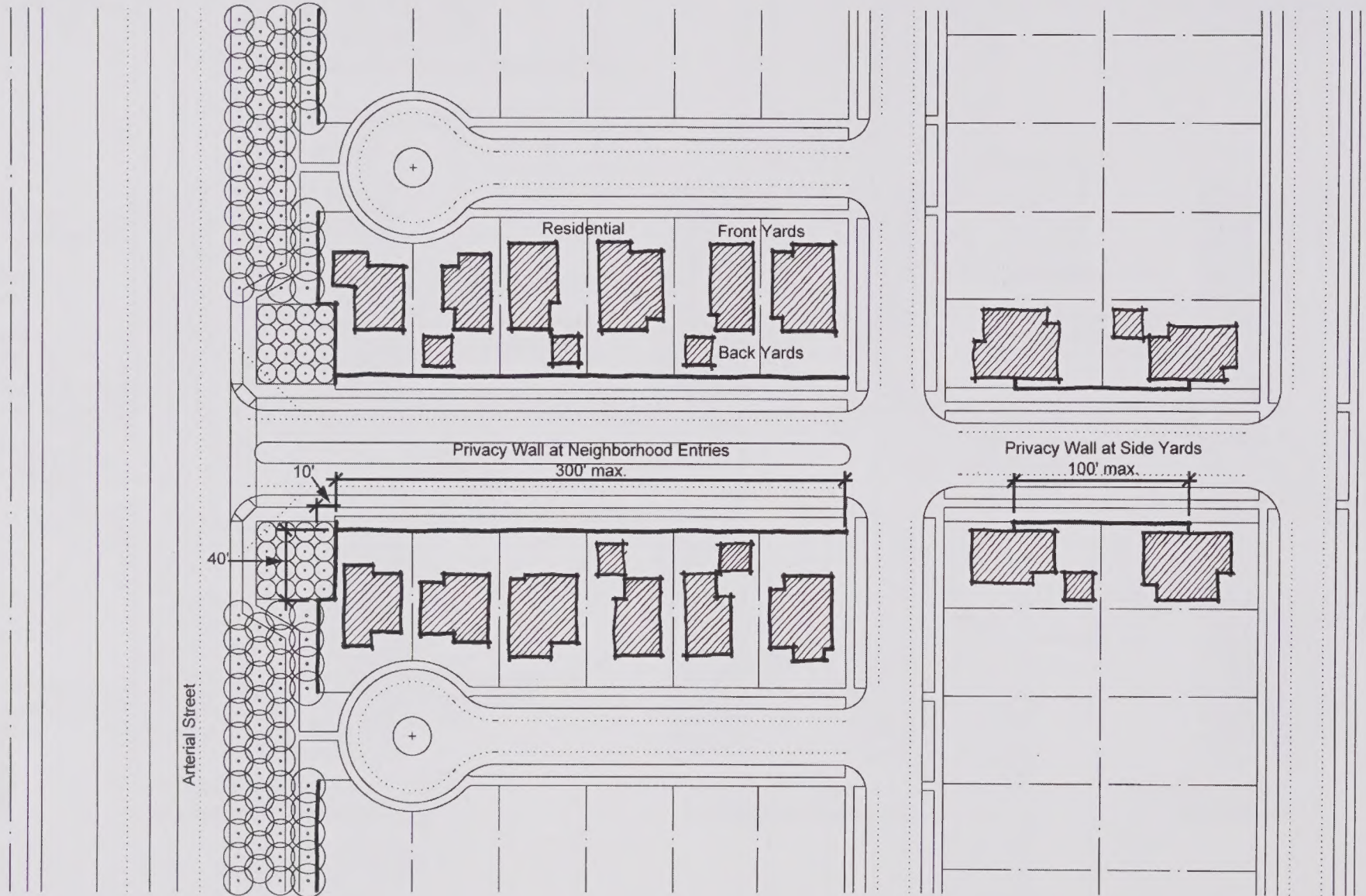


FIGURE 7.9: ARTERIAL/CONNECTOR STREET INTERSECTIONS

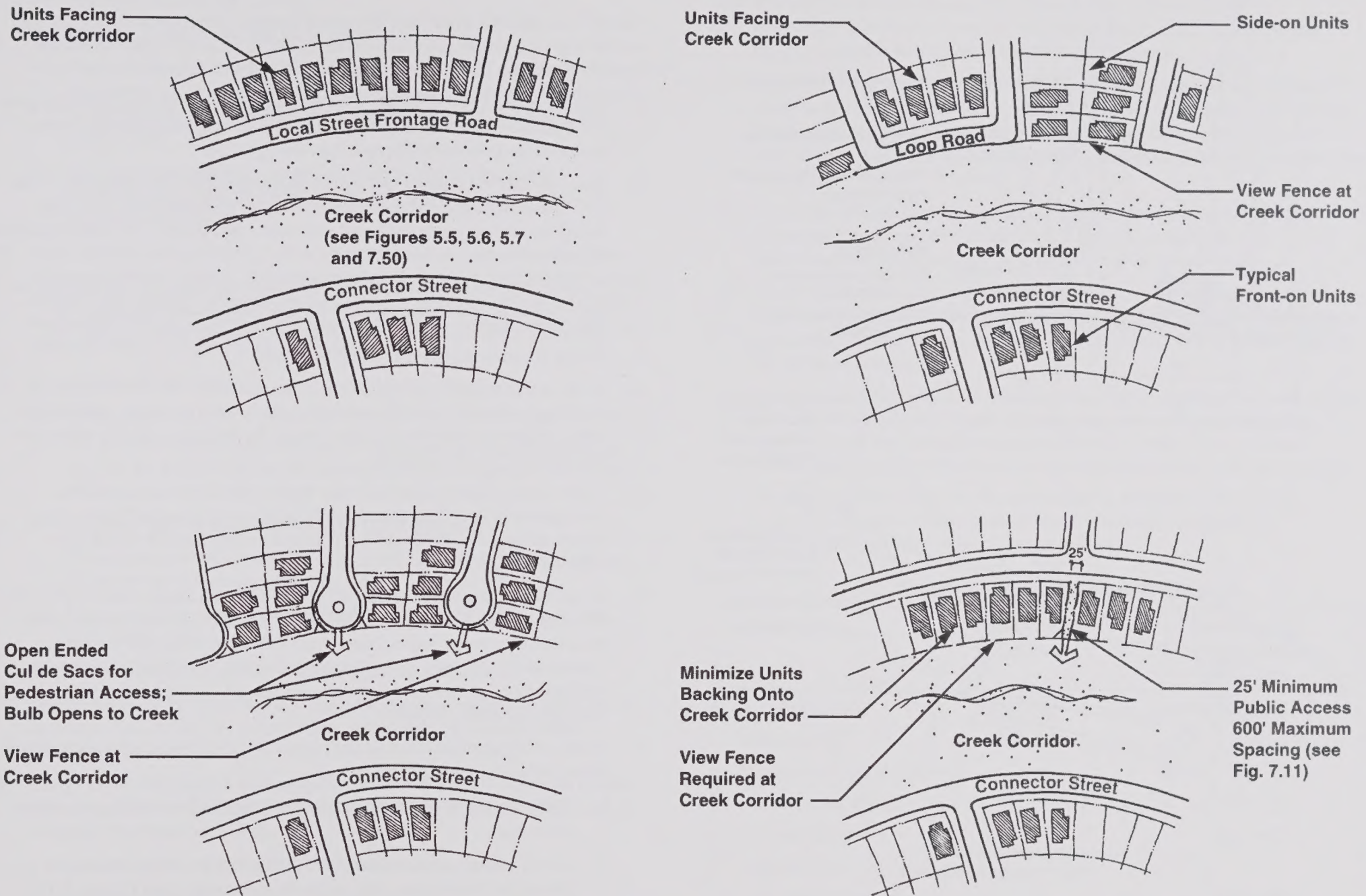


FIGURE 7.10: CREEK CORRIDOR FRONTAGE CONDITIONS

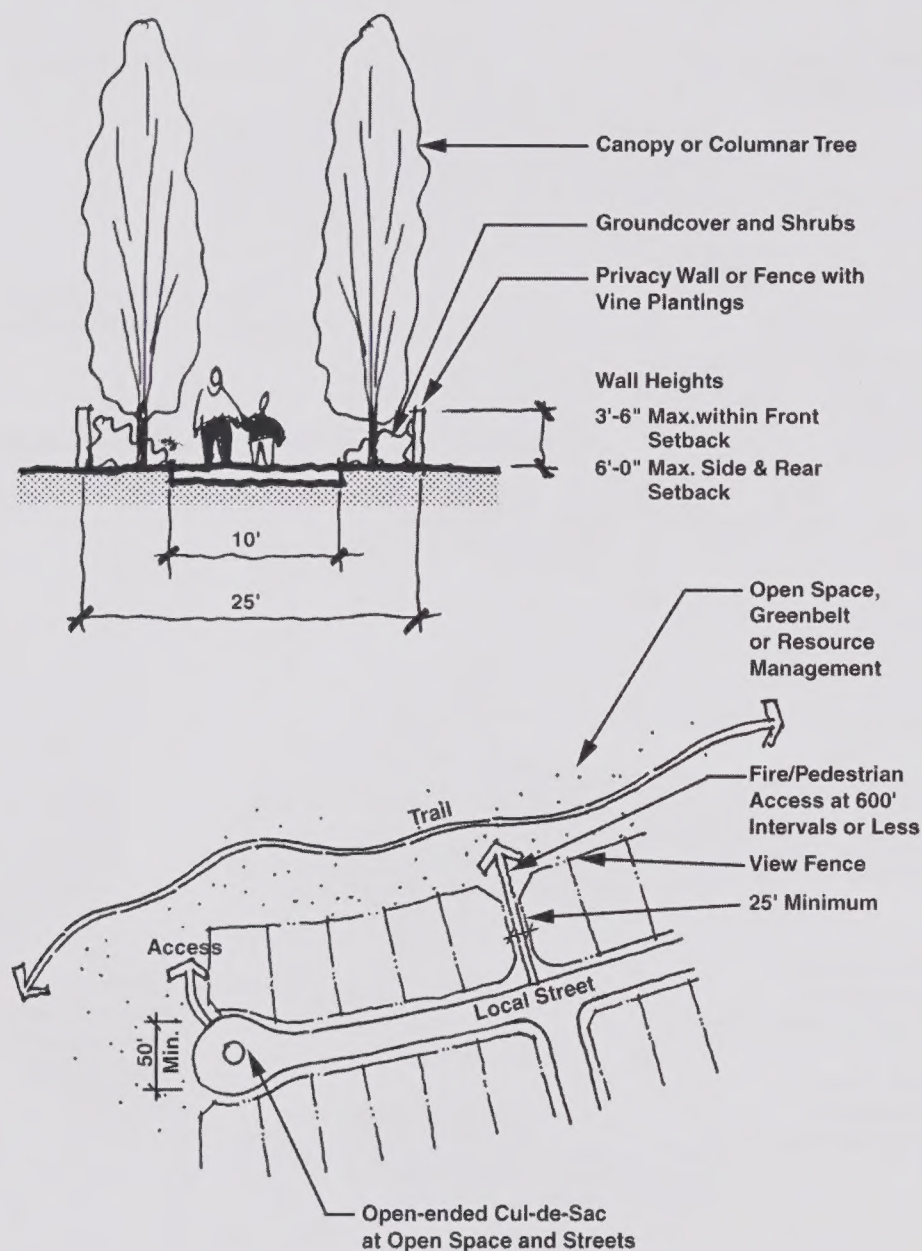


FIGURE 7.11: OPEN SPACE EDGE CONDITIONS AND PEDESTRIAN EASEMENTS

STREET LAYOUT AND ROADWAY DESIGN STANDARDS

Policy 7.2.2 Street Layout and Roadway Design. Streets and Roadways shall conform to the policies and standards described in Chapter 3, the streetscape sections shown by Figures 7.30 through 7.53, and the following provisions:

- a) Arterial and Connector streets shall be generally located as shown by Figure 3.1: Roadway Circulation. Streets and rights-of-way shall conform to the cross-sections shown by Figures 7.30 through 7.53.
- b) Street layouts in hillside areas should generally reflect the topography with curvilinear alignments. Street layouts in flatter portions of the Plan Area should be aligned north/south and east west. See Figure 7.13: Preferred Street Patterns.
- c) To the extent possible, streets shall ‘terminate’ or form a ‘T’ intersection at parks, schools, open space or other civic or institutional buildings. At minimum, streets shall terminate at the locations shown by Figure 7.12: Streets Terminating at Parks and Public Uses.
- d) To the extent possible, all cul-de-sac streets shall be “live end” streets, ie providing pedestrian, bicycle and emergency access to streets, open space areas, walkways or other land uses behind the lots served by the cul-de-sac (see Figure 7.14: Cul-de-sacs).
- e) To the extent possible, public streets shall be located to maximize the frontage along open spaces and public uses. Avoid “burying” such uses behind homes, thereby limiting access and exposure to the rest of the neighborhood.
- f) Local streets, loops and cul-de-sacs shall be located along creeks to provide views and public access. No more than 20% of directly abutting lots shall back onto the creek corridor (see Figure 7.10: Creek Corridor Frontage Conditions). Side yards facing the creek corridor are permitted, however open-ended cul-de-sacs are required with the cul-de-sac right of way touching the creek corridor.
- g) Traffic calming measures shall be required for local streets within residential areas, including, as appropriate:
 - i. Terminating entry Connector streets at neighborhood parks, schools or open space
 - ii. Use of narrowest allowable streets, with regular spaced street trees planted in the parkway strip, adjacent to the street (see Figures 7.52 through 7.53)

- iii. Provision of on-street parking
- iv. Frequent intersections and cross streets
- v. For ADT's between 1000 and 2000, provision of curb extensions and elimination of on-street parking at intersection corners to narrow overall street width at project entries and intersections with Connectors (see Figure 7.16)
- vi. Location of roundabouts, special median planter areas, small neighborhood parks, pocket parks or other special landscape area at intersections or entries
- h) Street layouts shall generally reflect an interconnected network to facilitate movement between areas. The street network shall consist of relatively short streets, with frequent intersections with other local streets, connector streets and arterial streets, as appropriate. Intersections along arterial streets may be limited to right-in, right-out movements only.
- i) Use of alleys is encouraged:
 - i. Alley rights of way and maintenance shall be private (see Figure 7.15).
 - ii. For purposes of FAR calculations, the alley may be counted as part of the total lot area for all lots providing rear access to garages or second units.
- j) Private streets may be permitted subject to the following:
 - i. Private streets shall be subject to the same dimensions and standards as public streets in North Livermore;
 - ii. Such streets serve only an identifiable development area and are not required for adjacent areas,
 - iii. Streets incorporate special features or paving materials.
- k) Design speeds, road centerline curvature and super-elevation standards shall be as specified in the City of Livermore Engineering Standards unless otherwise noted herein.
- l) Except in hillside areas or other special conditions, maximum design speeds shall be as follows, with corresponding reduction in centerline radii, vertical curvature, and super-elevation:
 - i. Arterial Streets 35/45 (preferred/maximum)
 - ii. Connector Streets 35 (maximum)
 - iii. Local Streets: 25 (maximum)
- m) Design criteria shall consider the enhancement of the pedestrian environment, reduction in noise, visual quality and other "quality of life" issues in addition to the need for vehicular efficiency.
- n) Street corner curb radii (measured to the face of the curb) shall be as small as possible to minimize pedestrian crossing distances. Maximum curb radii for streets shall be 30 feet for arterials, 20 feet for connectors and 15 feet for local streets. Safe sight distances shall be maintained in accordance with City standards.
- o) Except for the Village Core, maximum intersection spacing for local and connector streets may be increased up to 50% if a comprehensive, interconnected pedestrian trail/path/access network is provided.
- p) Except for the Village Core, maximum intersection spacing along arterial streets may be increased by up to 50% if local frontage streets, loop streets or open-ended cul-de-sacs are provided at frequent intervals (no more than 250 feet between breaks).
- q) Except as modified above, or where traffic safety requirements or topography preclude certain specific locations, maximum intersection spacing along roadways shall not exceed the spacing shown by Table 7.3. In limited circumstances, minor deviation from spacing requirements will be permitted
- r) In order to reinforce the continuous landscape treatment along North Livermore Avenue, median breaks should occur only at signalized intersections, and the Village Core intersections.

Table 7.3: Typical Intersection Spacing Criteria

Street Type	T-Intersection Min./Max.	Intersection/ Median Break Min./Max.
Arterial Streets	300/600	600/1,320
Village Core	NA	NA
Connector / Local Streets		
Connector Streets		300 / 600
Local Streets		200 / 600
Cul-de-Sacs		
Cul-de-Sac length		NA / 300
Cul-de-Sac length (live end)		100 / 600

Table 7.4: Typical Roadway Standards

Street	Street Segment	Figure No.	Section Letter	Lanes	Travel Way*	Typical R/W
Arterial Streets						
North Livermore Avenue	I-580 Gateway to Calle las Positas	7.30	A	6	94'	294'
	South of Village Core	7.31	B	4	76'	176'
	Village Core / Attached Residential*	7.32	C	4	84'	136'
	Village Core / Commercial*	7.33	D	4	84'	116'
	North of Village Core	7.34	E	2	36'	136'
Jensen Road	East of North Livermore Ave	7.35	F	2	52'	122'
Jensen Road / Calle las Positas	West of North Livermore Ave	7.36	G	2/4	52/76'	156'
Jensen Road / Calle las Positas	Hillside Conditions	7.37	H	4	76'	156'
Hartman Road	Jensen Road to Las Colinas Avenue*	7.38	I	2/4	58/82'	132'
	Jensen Road to Calle Las Positas	7.39	J	4	76'	174'
	at College	7.40	K	6	94'	154'
Murray Ranch Road	Collier Canyon Rd to Hartman Road	7.41	L	4	76'	140'
Las Colinas Avenue	Two Lane at Creek/Residential	7.42	M	2	36'	80'
	Two Lane along Creek/ Environmental Park	7.43	N	2	52'	112'
	Hartman Road to Raymond Road	7.44	O	4	76'	130'
Connectors						
Village Core	Market St.; Village Commons; Angle Pkg	7.45	P	2	54'	86'
Village Core	Parallel Pkg	7.46	Q	2	40'	72'
	Neighborhood Entry	7.47	R	2	48'	88'
	Typical Connector*	7.48	S	2	36'	60'
	Waterman Drive	7.49	T	2	24'	46'
	Cayetano Creek and School/Park*	7.50	U	2	36'	70'
	Along East Creek*	7.51	V	2	36'	65'
Local Streets*						
Local Street	<1000 ADT	7.52	W	2	30'	54'
Local Frontage Street	<1000 ADT	7.53	X	2	26'	45'
Alley*	Private-	7.15		1-2	12'-18'	22'-28'

* Includes on street parking.



FIGURE 7.12: STREETS TERMINATING AT PARKS AND PUBLIC USES

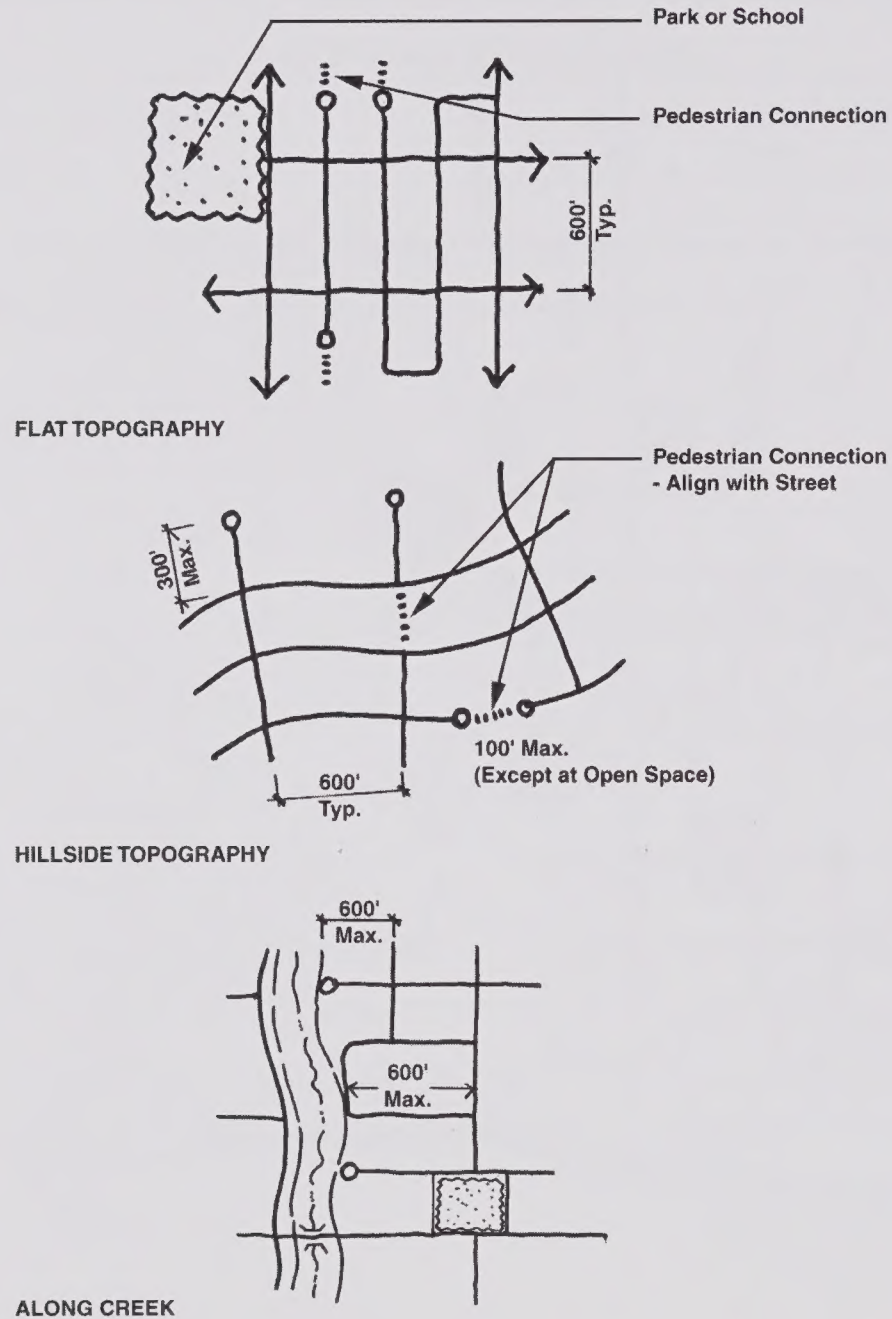
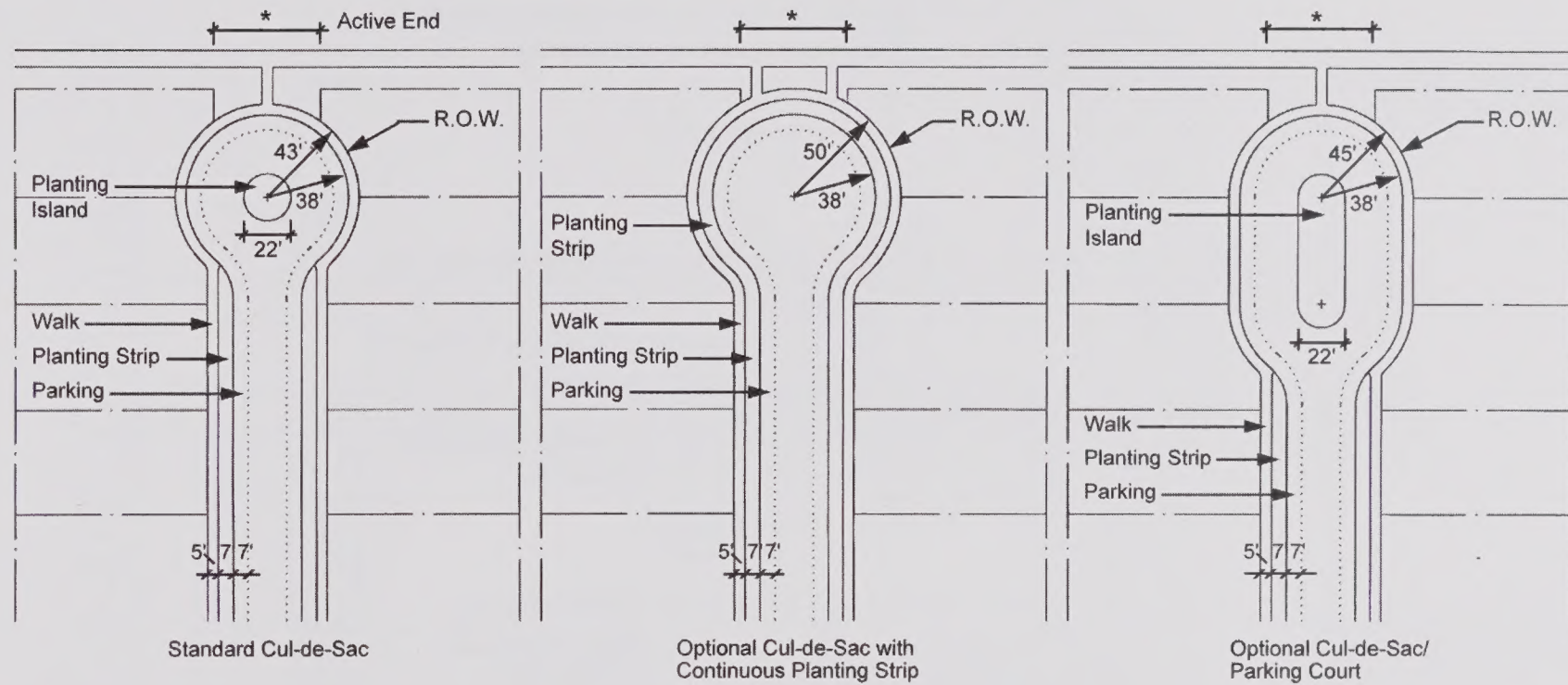


FIGURE 7.13: PREFERRED STREET PATTERNS



* 50' Opening at "⊥" Street. 25' at End-to-End Cul-de-Sacs.

FIGURE 7.14: CUL DE SACS

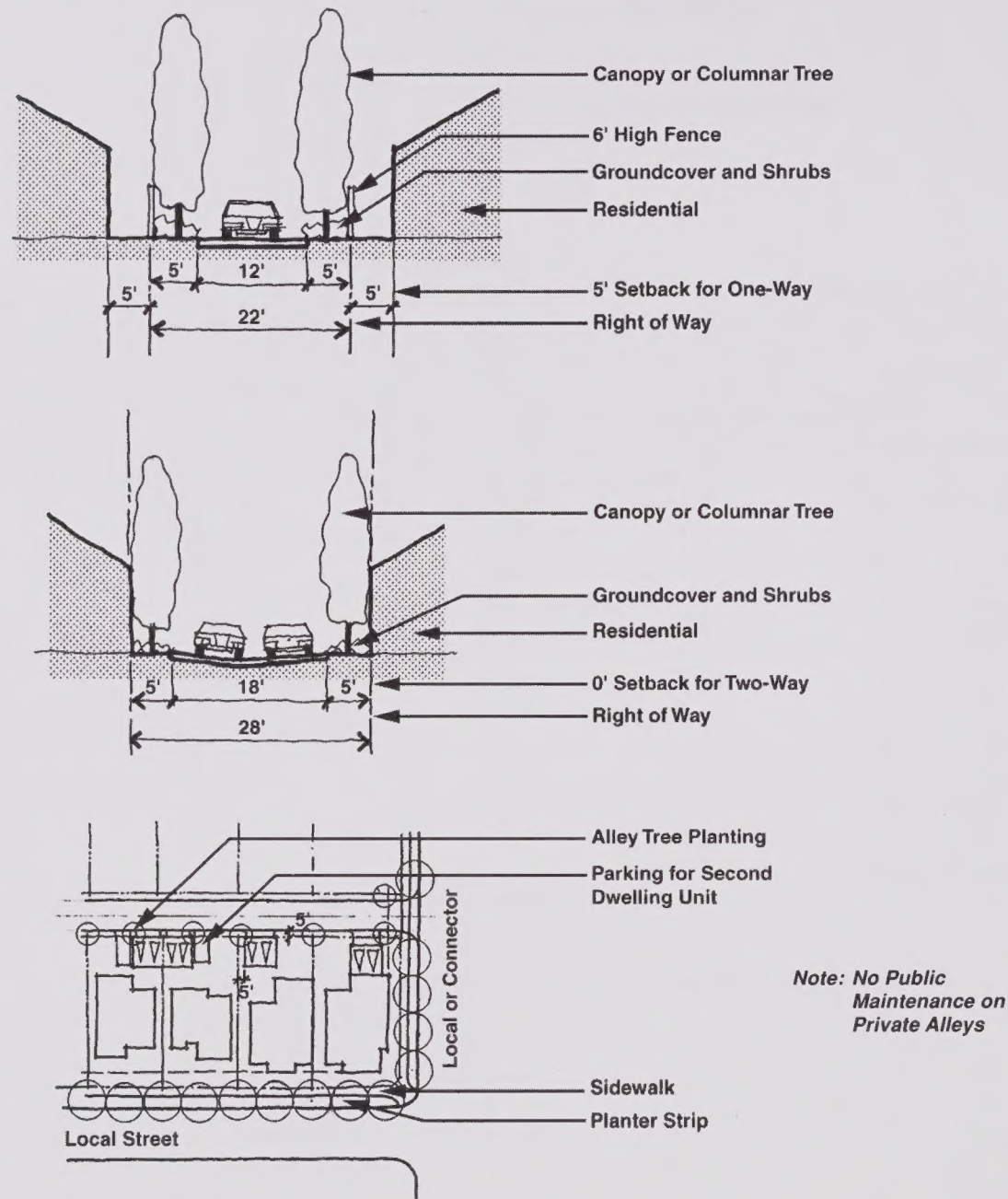


FIGURE 7.15: PRIVATE ALLEYS

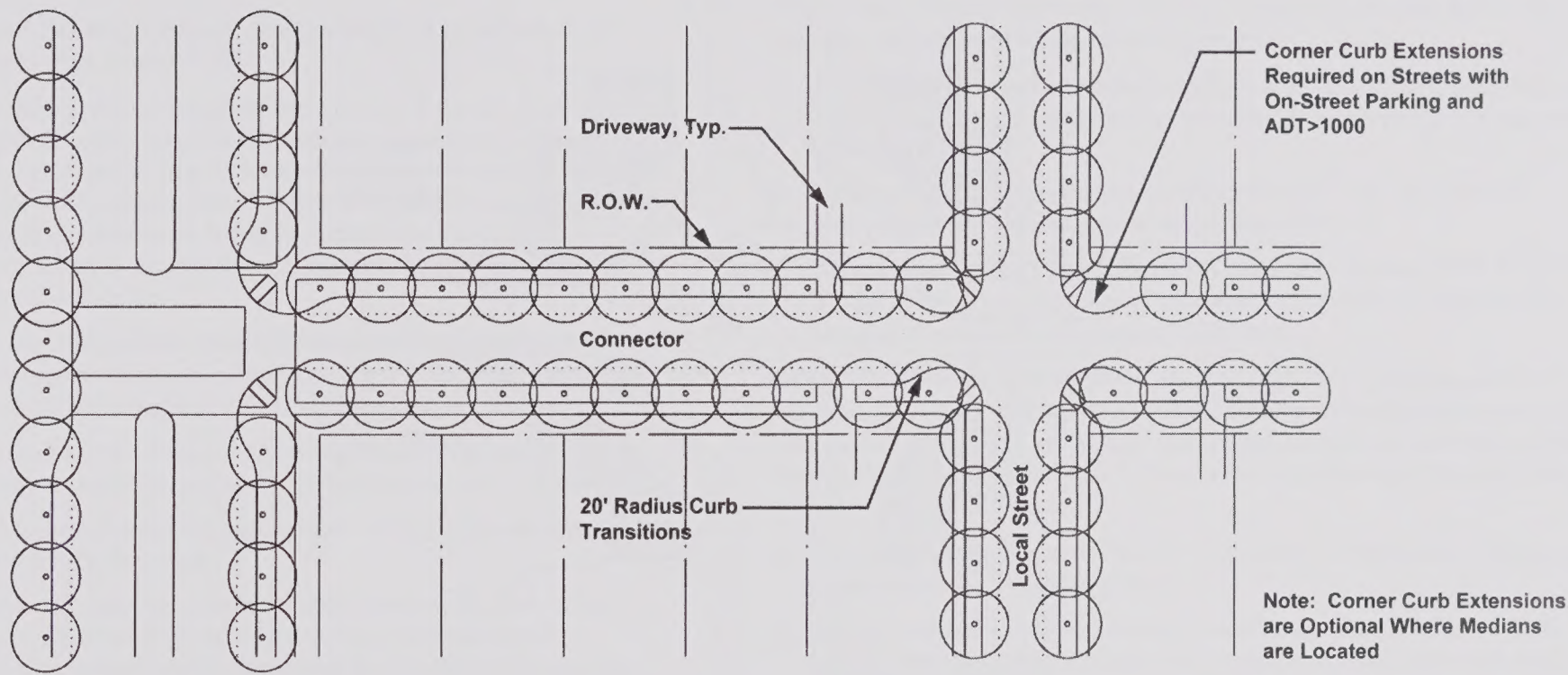


FIGURE 7.16: LOCAL/CONNECTOR STREET INTERSECTIONS

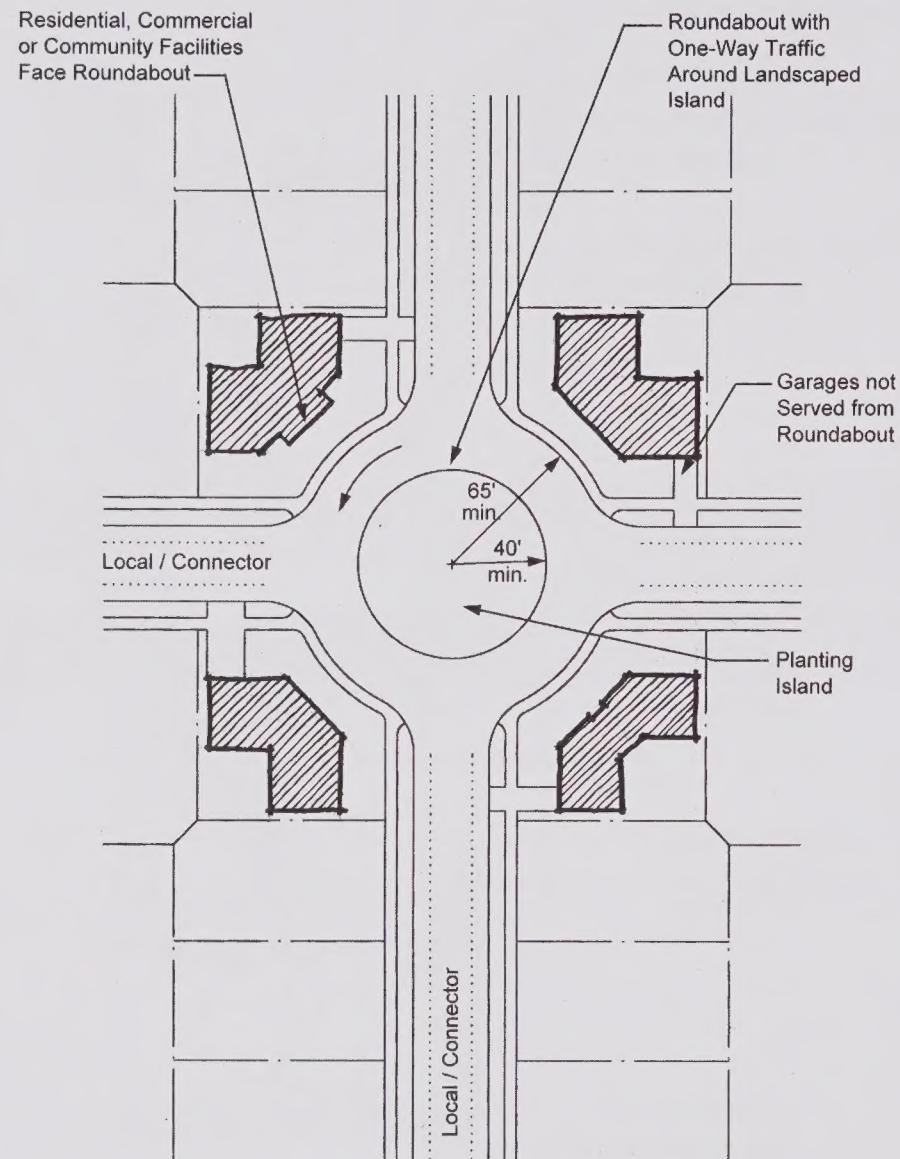


FIGURE 7.17: LOCAL/CONNECTOR STREET INTERSECTIONS – ROUNDABOUT

7.3 GRADING

Note: See Section 4.1 for general geotechnical requirements.

Policy 7.3.1 Grading Objectives. Site grading within the Urban Area shall emphasize creation of safe, usable areas, with transitions to undisturbed areas that appear natural and harmonious with the surrounding natural terrain. All grading shall be designed to anticipate the long term stability and appearance of the community, and avoid impacts on existing trees, natural drainage ways and wetlands.

Policy 7.3.2 General Grading Criteria. Site grading shall be subject to the following (see Figures 7.18 through 7.20):

- a) Except for arterial streets, backbone infrastructure or remedial grading necessary for public safety, no parcel or contiguous portion of a parcel greater than two (2) acres in size, with an average natural slope steeper than 25% over any vertical difference of 25 feet or more shall be graded. Limited exceptions may be granted when feasible alternatives do not exist to accomplish such things as natural resource protection, view enhancement, or superior neighborhood design.
- b) Cut and fill slopes shall include adequate setbacks for all buildings and structures at the tops and bottoms of slopes to provide for grade transitions and ensure a visually pleasing and stable condition.
- c) Graded slopes shall exhibit a natural-appearing transition between manufactured slopes and existing terrain. Techniques include:
 - i. Round the top and bottom of slopes generously for a smooth transition to padded lots or natural terrain;
 - ii. Where physically possible, create variable slope grades, undulating slopes, and curvilinear alignments for surface drainage swales to minimize the appearance of an engineered slope with a uniform grade;
 - iii. Design drainage swales and structures that blend with the terrain;
 - iv. Plantings of grasses, groundcovers, shrubs and trees shall be used to visually ‘soften’ newly created landforms.

- d) Use of swales or ditches shall be minimized. To the extent physically possible, drainage shall be designed to locate swales adjacent to roadways or development areas (Figures 7.18 to 7.21). Where required, swales shall be designed to be screened from view or blend into adjoining natural areas, to minimize drainage velocities and utilize natural materials, integral color or other means to minimize visual contrast with the planted slope.
- e) Existing natural drainage swales and variations in grade shall be retained to the extent possible.

Policy 7.3.3 Cut and Fill Slopes. Cut and fill grading practices within the Plan Area shall be regulated by the following criteria:

- a) All fill slopes exceeding six feet in height shall be designed according to the recommendations of, and constructed under the observation of a registered Civil Engineer.
- b) No fill slope shall be constructed steeper than 50% (2:1 horizontal to vertical). No cut slopes shall be steeper than 50%.
- c) All cut slopes steeper than 25% (4:1 horizontal to vertical) shall be evaluated for suitability by a Geotechnical Engineer and/or Certified Engineering Geologist licensed by the State of California.

Policy 7.3.4 Erosion Control Plan. Prior to approval of grading permits for individual development projects, a detailed erosion and sedimentation control plan shall be prepared in accordance with permit conditions and requirements of the State Water Resources Control Board’s Best Management Practices (BMP’s) or equally effective measures.

- a) The plan shall be prepared by a Civil Engineer or Geotechnical Engineer registered in the State of California.
- b) This plan shall include appropriate measures to limit the effects of soil erosion and impacts on surface water quality due to soil erosion during construction, such as: the use of sediment basins and sediment traps; straw bale dikes and silt fences; gravel construction entrances and maintenance programs; and hydro-seeding.

Policy 7.3.5 Grading Plans. Grading plans shall be prepared under supervision of a Civil Engineer or Landscape Architect (licensed in the State of California) to insure that all cuts and fills are properly designed, placed and compacted. Grading plans shall be reviewed by a registered Civil Engineer.

Policy 7.3.6 Monitoring of Grading. All grading conducted within the Plan Area shall be observed and tested under supervision of a registered Geotechnical Engineer or a Certified Engineering Geologist.

Policy 7.3.8 Grading for Arterial Streets and Community Infrastructure.

Grading of Arterial Streets and Infrastructure, shall be subject to the following:

- a) Grading for arterial streets and major infrastructure elements shall be limited to the extent required to create a stable and visually pleasing result.
- b) Except in limited areas for the following arterial streets, the maximum vertical height of cut or fill slopes shall not exceed twenty five feet (25’):
 - i. Hartman Road/Isabel Parkway adjacent to Las Positas College;
 - ii. Calle Las Positas approaching Hartman Road and near North Livermore Avenue; and
 - iii. Murray Ranch Road adjacent to Las Positas College.
- c) To the extent possible, cut and fill slopes shall be constructed with flat enough slopes to avoid the need for drainage ditches.
- d) Site grading shall avoid the use of midslope terraces.
- e) Except in limited areas where required for long term slope stability, drainage ditches or swales shall be limited to locations immediately adjacent to roadways or major infrastructure elements. Where required, drainage ditches shall be screened from view, built into the slope (not on a terrace), and utilize tinted concrete or natural materials to minimize visual impacts.
- f) On arterial streets, in order to minimize the visual impacts of the roadways, curb grades shall be depressed 12 inches below finished grades at the closest edge of the sidewalk, or right of way line where there is no sidewalk. Roadway medians 14 feet or greater in width shall be graded with a crown height approximately 12 to 18 inches above the curb except near intersections to maintain sight distance requirements.

Policy 7.3.9 Development Area Grading. Grading within and adjacent to development areas in Zone A shall be subject to the following:

- a) For all development areas abutting Open Space Zone C, a grading limit line has been established (Figure 7.18). The grading limit line shall be located 75 feet from the Development Limit Line, which is the boundary between Zone A and Zone C. Except where listed below (section b), all grading, including slope-rounding and transition areas for development areas shall be confined within this 75 foot zone.

- b) In limited areas, grading may occur beyond the grading limit line, provided that such grading encroachment into the open space zone is compensated for elsewhere in the development parcel such that the total graded area is equal to or less than that established within the grading limit line, and:
 - i. Will better protect natural resources; or
 - ii. Will result in a more visually pleasing condition; or
 - iii. Will provide a substantial improvement in the efficiency or layout of the development area; and
- c) Grading required to repair existing slide areas which present a danger to development within Zone A is allowed if the site is returned to previous contours.
- d) The maximum vertical height of cut or fill slopes visible from the street in front of the homes shall not exceed twenty five feet (25’). This height maximum may be increased locally when it contributes to an improved overall site plan (e.g., protection of open space and habitat areas, minimizing total cut and fill quantities, or limiting visual impacts in the I-580 Scenic Corridor).
- e) Site grading shall be designed to eliminate the need for midslope terraces.
- f) Use of drainage ditches (‘j’ ditches or ‘v’ ditches shall be avoided to the extent possible and only used where no practical alternative exists to provide long term slope stability. If required, drainage ditches shall be:
 - i. Limited to locations immediately adjacent to roadways or major infrastructure elements.
 - ii. Discouraged in open space areas. If required, preferred location is at bottoms of slopes.
 - iii. Screened from view, built into the slope or utilize other techniques to minimize visual impacts.
- g) Development proposals for sites adjacent to undeveloped urban land shall generally establish perimeter grades at the property line no lower than the adjacent land and no more than one foot higher. If perimeter grades outside these requirements are desired, the developing parcel shall provide a grading concept plan showing grades on both properties, and have the plan approved by the City.

- h) Perimeter grades at the property line adjacent to developed properties shall be within two (2) feet of either the existing grade or consistent with an approved grading plan for the adjacent property.

Policy 7.3.10 Lot Grading. Lots shall be graded subject to the following:

- a) Residential lots shall be graded to direct storm water runoff towards public streets or easements and not across adjacent private property. All lots shall be graded to ensure positive surface drainage.
- b) Single family detached residential lots of 4,500 feet or larger located on streets of less than 2% centerline grade, shall be graded such that the finished floor elevation of the residence (not garage) is at least 18 inches above the street curb at the midpoint of the street frontage property line.

- c) For padded lots, side yard slopes shall be limited to seven feet (7') vertical change, and rear yard slopes shall be limited to 25 feet vertical or the maximum allowed without a drainage terrace, whichever is smaller.
- d) Up to 10 vertical feet of cut and fill slopes entirely located within private lots, may be graded at 2:1, horizontal to vertical (see Figure 7.19).

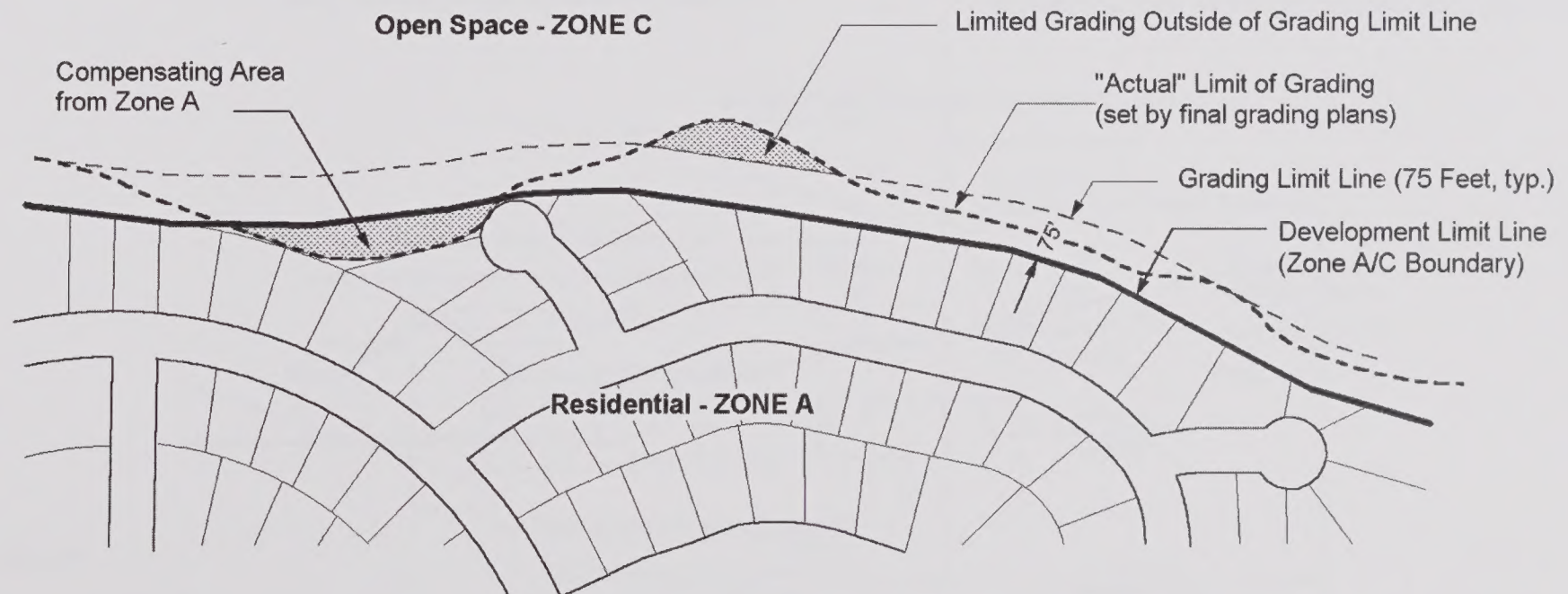


FIGURE 7.18: ESTABLISHMENT OF FINAL LIMIT OF GRADING

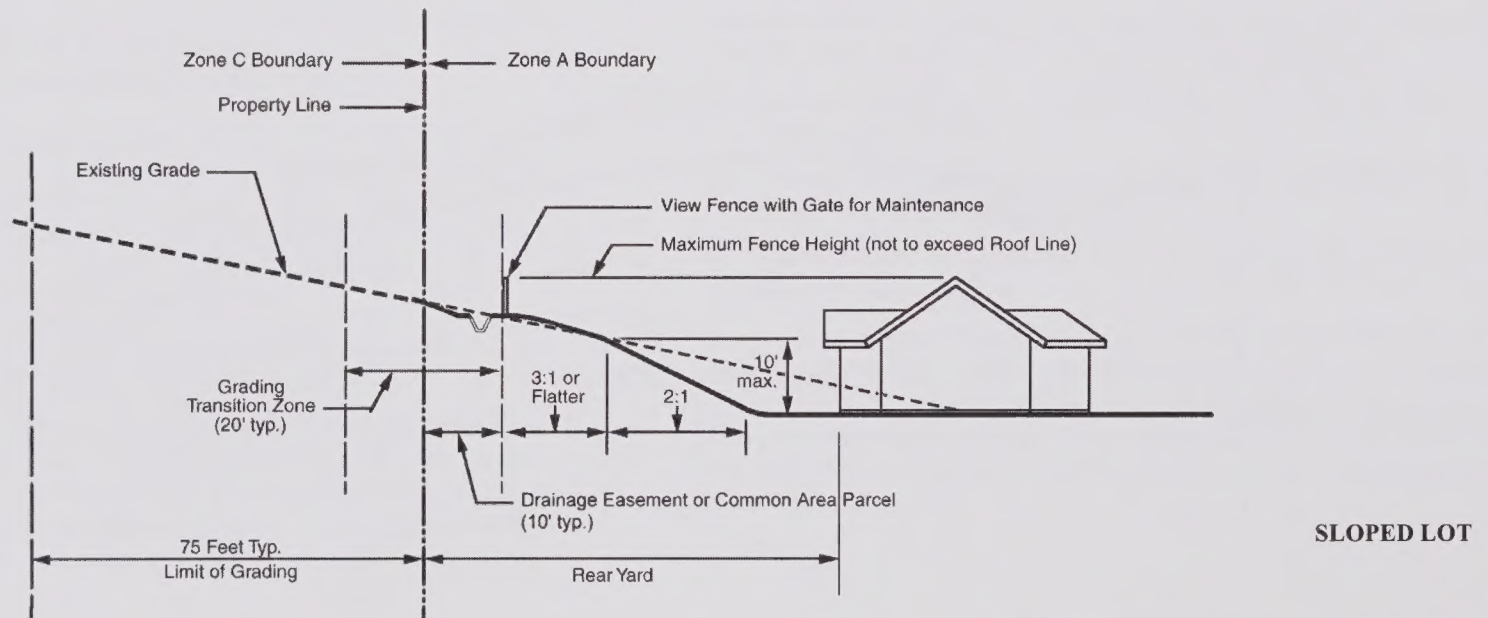
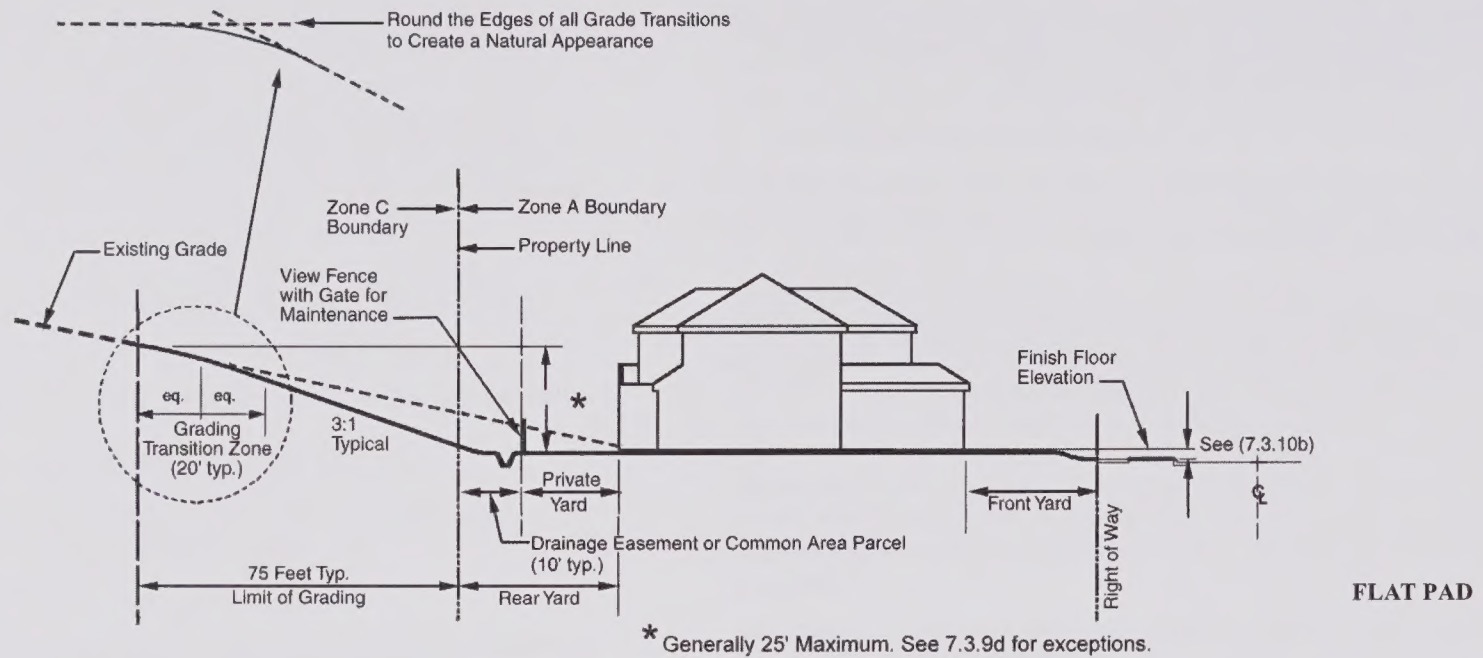


FIGURE 7.19: LOT GRADING STANDARDS – CUT

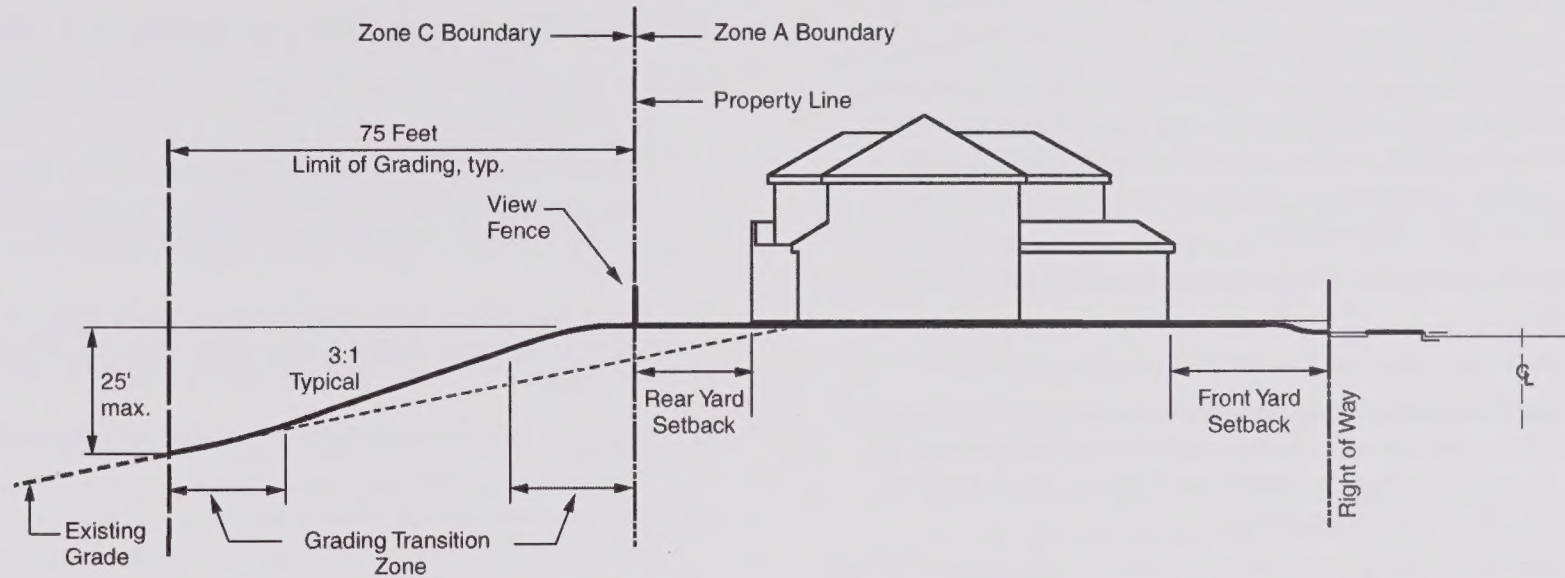


FIGURE 7.20: LOT GRADING STANDARDS – FILL CONDITION

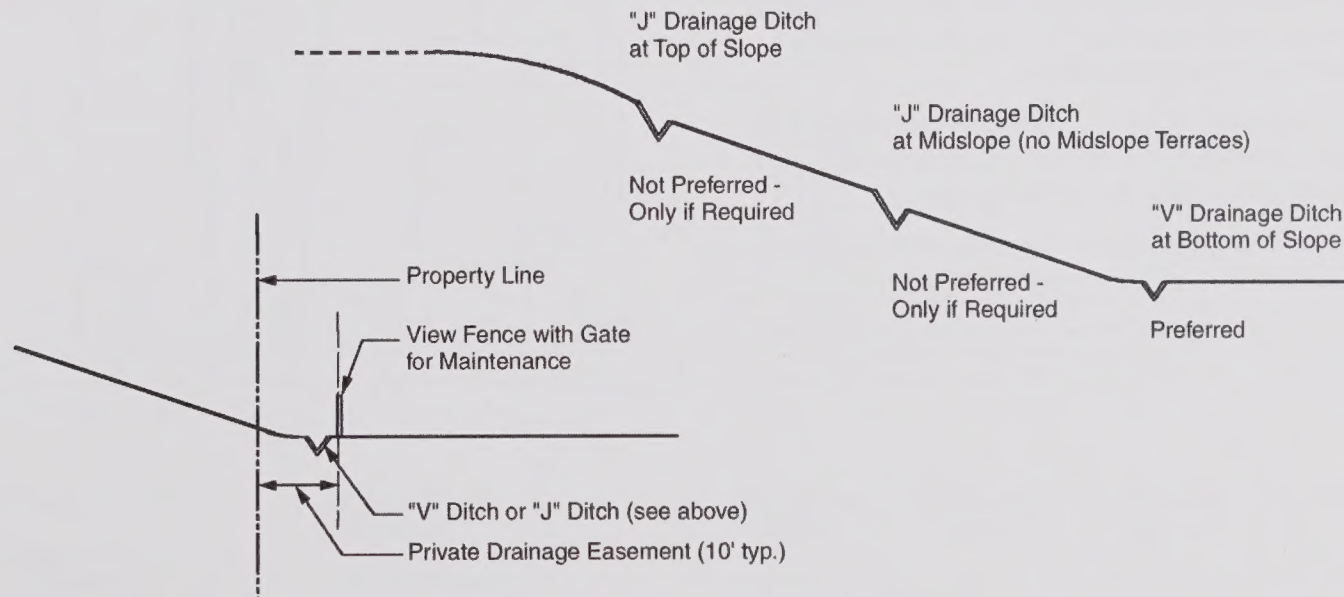


FIGURE 7.21: DRAINAGE DITCHES

7.4 RESIDENTIAL DEVELOPMENT*DRIVEWAYS AND GARAGES*

The following development standards are intended to prevent garages, driveways and automobiles from dominating the street scene of residential neighborhoods. The negative visual impact of driveways and garages shall be minimized by a combination of features including variable setbacks, restrictions on garage placement, use of detached garages, a varied mix of house types and required street tree planting in parkway planter strips.

Policy 7.4.1 Garage Placement and Doors. Garages shall be subject to the following provisions:

- a) A variety of garage placement configurations is encouraged.
- b) Garage doors and driveways shall be designed to reduce the visual scale of these elements. For detached residential uses on lots 4,500 square feet or larger, garage doors shall occupy a maximum of 50% of the width of the building elevation facing the public street.
- c) For lots on public streets garage doors shall be located a minimum of 20 feet from the back edge of the sidewalk. Where rollup garage doors are provided, the minimum setback shall be 18 feet.
- d) Except for houses with swing-in garages, garage doors on homes facing public streets shall be recessed a minimum of five feet behind the primary front house facade for houses without porches, or three feet behind the primary front house facade for houses with porches.
- e) For lots 5,000 square feet or greater at least 15 percent of garages shall be detached and located in the rear one half of the lot. Detached garages may include covered connections between the house and garage.
- f) For lots 4,500 square feet or larger, 40 percent of garages shall be located a minimum of 20 feet behind the front of the house or porch.
- g) Up to fifteen percent (15%) of all lots within a tentative map may have swing-in garages set forward of the front facade of the living area.
- h) Garages may be attached across common side or rear property lines.
- i) The Plan encourages the development of corner lots with driveways provided off the side street.
- j) Street-facing facades of side-entry garages shall be provided with such features as windows, overhangs, arbors, doorways, pilasters special surfaces or other building elements. Blank walls are not allowed on these street facing garages.
- k) Single width doors are encouraged for garages facing the public street within 50 feet of the right of way. Single width doors are encouraged for all three-car garages.
- l) Accessory structures and detached garages shall be located in the rear half of the lot.
- m) Rear yard setbacks for garages served by rear alleys or common drives may be zero (0) feet, with no additional rear second story setback.
- n) Maximum height of garages shall be 15 feet or 24 feet if habitable space is included as a second story over the garage, measured to the highest point of the building.

Policy 7.4.2 Driveways. Driveways shall be subject to the following provisions:

- a) Driveways for single family lots shall not exceed 16 feet in width within the front building setback (or porch setback if the unit has a porch).
- b) For lots 4,500 square feet or larger, a minimum of 40 percent of driveways shall be no more than ten (10) feet in width between the curb and building setback (or porch setback if the unit has a porch). Use of traditional dual driveway lanes separated by a grass planter strip is encouraged. For such lots, garages shall be located a minimum of 20 feet behind the front of the porch or house.
- c) Lots larger than 3,500 square feet with a minimum street frontage of 40' or less, shall have single width driveways (10' maximum width) within the front setback.
- d) Shared access drives are allowed to reduce curb cuts and points of conflict along streets. In such cases, joint access easements shall be provided.
- e) Direct driveway access to individual residential units from four-lane and six-lane arterial streets is prohibited. For other arterial streets, driveways which allow traffic to nose out into traffic may be permitted.
- f) Use of planter strips or special paving is encouraged for driveways. All driveways for swing-in garages shall be designed to minimize visual impacts of the large expanse of paving.
- g) Except as follows, driveways serving parking areas for multiple family or cluster developments not abutting public streets shall conform to City driveway standards and the following minimum requirements:
 - i. Fifteen feet in width for one-way driveways that do not have any parking on the driveway.
 - ii. Twenty six feet in width for two-way driveways that do not have any parking on the driveway.
 - iii. Driveways with parking on the driveway shall conform to the minimum aisle widths and parking stall depths as applicable for parking lots.

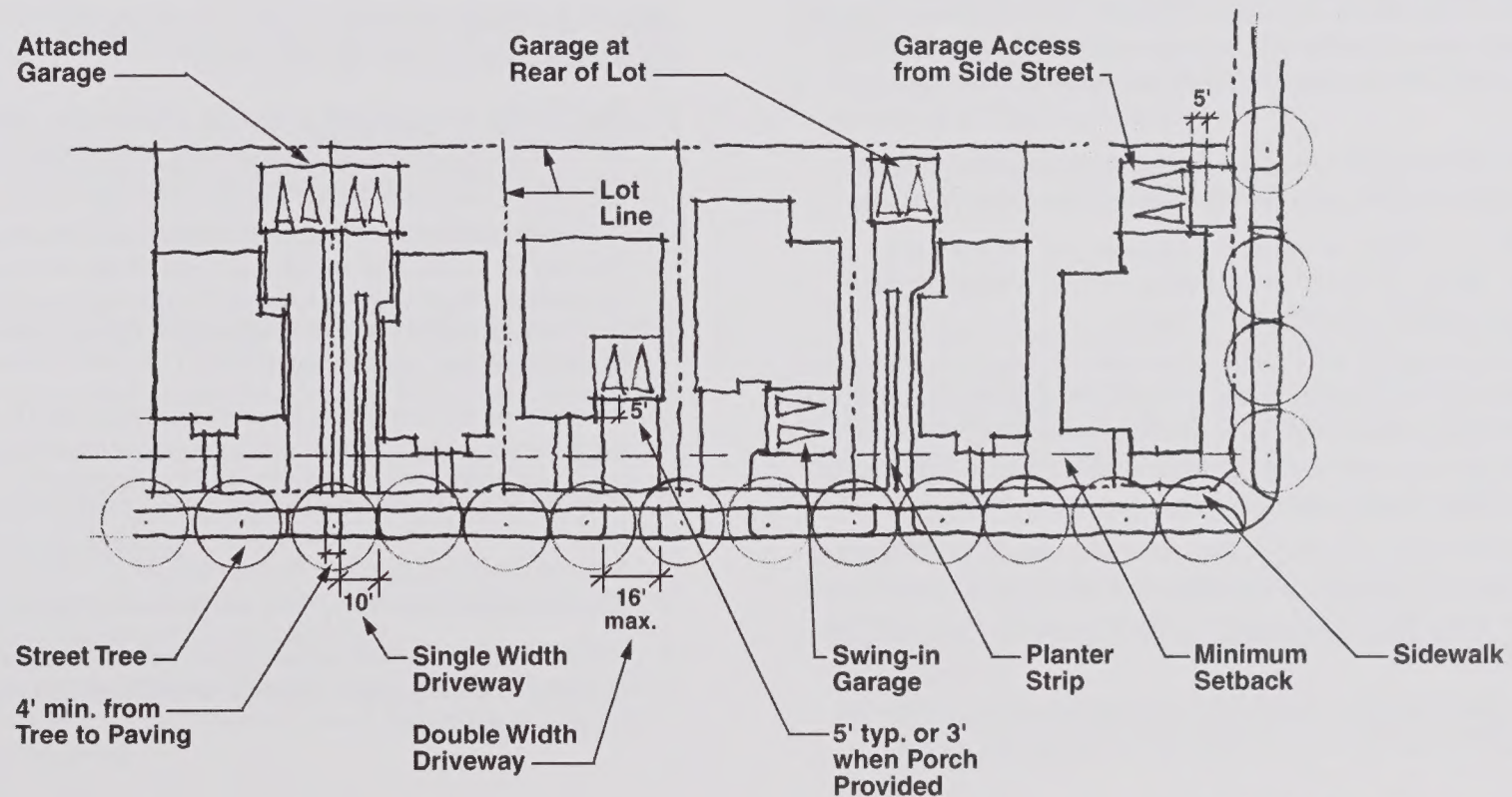


FIGURE 7.22: DRIVEWAYS AND GARAGES

DETACHED RESIDENTIAL ARCHITECTURE

The following guidelines for residential buildings are intended to help establish diverse, livable neighborhoods. The intent is to foster a pleasing sense of scale, proportion and variety in the residential architecture and streetscape. Variation in styles will:

- Help reduce the visual and physical mass of residences;
- Provide a sense of scale that relates the street with houses on either side;
- De-emphasize the automobile as the dominant visual component, and;
- Provide a distinct character to residential development areas and individual streets.

Policy 7.4.3 Mix of Facades and Floor Plans. In order to avoid repetition or monotony, establish a variety of facades and floor plans in accordance with the following provisions:

- a) A mix of floor plans, elevations and setbacks shall be provided to encourage variety in the appearance of streetscapes. Such variation may include a mix of building styles along streets, or smaller “thematic areas/enclaves” within a larger development area that exhibit a common style or identity. Identical house elevations shall not face each other across the street, nor be next to each other.
- b) Tentative maps with lots greater than or equal to 5,000 square feet shall contain a mix of one and two story homes within each release (15% one story, minimum).
- c) Front elevations shall be designed to emphasize entries, porches, or other resident use areas, and to de-emphasize garages.
- d) All facades shall be designed for continuity of massing, materials, colors and details. Large areas of wall surfaces shall be varied through the use of offsets, overhangs, recesses or other elements to provide visual relief. Particular attention shall be given to side or rear building facades visible from arterial streets, parks and other public uses.
- e) Where buildings are located on sloped lots, structures should be designed to minimize building heights, and to avoid skirt walls that exceed eight feet on the downhill elevation. Blank skirt walls visible from public areas shall be screened with landscaping.

Policy 7.4.4 Entries and Porches. Residential development shall emphasize building entries and porches in accordance with the following provisions:

- a) The entry to each residence shall be prominently located on the front facade, in proportion to the overall building mass.
- b) Porches shall be provided on at least 40 percent of all detached homes facing public streets.
- c) Required porches shall have a minimum depth of six feet (6’-measured between the house and the inside of the support column), and occupy at least 50 percent of the primary façade, not including the garage. For corner lots, porches should wrap around the front and side facades unless inconsistent with the chosen architectural style.
- d) Porches or trellises may extend up to five (5) feet into any street frontage yard, provided that such structures shall not encroach into any PUE and shall be a minimum of six (6) feet from the edge of the sidewalk.
- e) The design of the porch shall be consistent with the architectural style of the building.
- f) For homes without required porches, use of enclosed courtyards, trellised patios or other features to enhance the entry is encouraged.

Policy 7.4.5 Roofs. Establish a variety of roof forms and treatments in accordance with the following provisions:

- a) Roof forms, materials and colors are a distinctive visual element in establishing the character of residential neighborhoods. Careful consideration shall be given to avoid monotonous, repetitive views of roofs from off-site.
- b) A simple roof form shall cover the majority of the main body of the house. All roof forms shall be articulated through the use of gables, hips, dormers, clerestories or other roof elements. To the extent possible, all roof designs shall provide large eaves or overhangs to reduce the visual scale of the building and add shadow lines.
- c) A variety of roof forms shall be provided for each floor plan within a neighborhood, compatible with the chosen architectural style.
- d) Roof pitches may be varied within each neighborhood or development area in accordance with the architectural style chosen. Roof pitches for the main body of the house shall not be less than four in twelve, consistent with the chosen architectural style, with steeper roof pitches preferred.
- e) Flat roofs, if used, shall consist of secondary design elements within individual buildings, and limited to a small percentage (15%) of the total neighborhood units.

- f) Rooftop equipment shall be concealed or integrated into the design of the roof. Mechanical equipment shall be screened from public view. Equipment shall be located and enclosed or screened to minimize noise on adjacent properties or public streets. Roof vents should be grouped and located to the rear of the ridge line, away from the public street to the extent feasible.
- g) Active and passive solar systems are encouraged provided they are integrated into the building form.

Policy 7.4.6 Building Materials and Colors. Maintain the quality and consistency of building materials and colors, consistent with the following:

- a) Materials chosen for homes shall be consistent with the respective architectural style(s) within each neighborhood or development area. The exterior appearance of a house shall receive consistent treatment on all sides, although the proportion of materials may vary. Generally, street facing elevations (including side or rear elevations visible from arterial streets) shall have more detail and articulation than non-street facing elevations.
- b) All exterior materials shall be durable and fire resistant. Building elevations directly facing wildland open space areas shall be designed as fire defensible structures (e.g., incorporating non-combustible siding, boxed-in eaves, triple-paned windows, etc.).
- c) Each neighborhood shall utilize a variety of materials and colors. Materials should reduce visual impacts on nearby public uses and adjacent neighborhoods and create variety within and between neighborhoods. In general, use of natural materials such as wood, stone, and brick is encouraged.
- d) Roof colors shall be darker than walls. Dark colors generally tend to be less visible, particularly over time, as the landscape matures. Use of very bright, light, or contrasting colors shall be minimized and used for accent only, and never for roofs.
- e) Reflective materials or materials with shiny finishes are prohibited. These include reflective glass, metal fixtures and trim, glazed roofing tiles, enameled metal or similar materials.
- f) Generally, material changes should occur in the different building planes, and at intersections or transition of architectural elements.
- g) Large expanses of materials within a single building plane should generally be avoided. Plywood siding or other sheet materials may be used only where sheet modules are not apparent.

- h) The use of all exterior material shall be consistent with its natural associated characteristic; i.e., heavy materials (brick, stone, etc.) used in load-bearing applications. In general, heavy materials shall appear to support lighter materials.
- i) Roofing materials shall be durable and fire resistant. A wide variety of materials is permitted, compatible with the chosen architectural style. However, materials which imitate other materials are not allowed (e.g., stamped metal to imitate ceramic tile), where such imitation is noticeable from the public sidewalk.
- j) Variation in roofing materials and colors is encouraged within and between neighborhoods or development areas. Such variation includes mixing flat and barrel tiles or other similar variation in texture or color.

Policy 7.4.7 Special Architectural Elements. In order to introduce variety and pedestrian scaled details into the appearance of residential areas, homes should include a selection of special architectural elements, visible from the street and consistent with the selected architectural style. All homes should include at least one of the special elements. Special elements include but are not limited to the following:

- a) Chimneys are intended to articulate the principal elevation of the house with a distinctive vertical element:
 - i. Base and main chimney should be expressed in a material different from the principal material of the house (e.g., stone).
 - ii. Cap should be expressed in a distinctive material or form (e.g., brick, copper).
 - iii. Chimney caps should be fitted with approved spark arresters.
- b) Porte-cochere/breezeways are covered extensions of the house over the driveway that define an interior courtyard. Porte-cocheres may include living space over the driveway:
 - i. Intended to unify and extend the facade of the house into the driveway zone.
 - ii. Recessed from front house facade unless integrated with the porch.
- c) Arbors/trellises are intended to provide shade, shadow and add visual interest from the street:
 - i. Scale, materials and detail should be compatible with the building architecture.

- ii. Use to define use areas within yards such as walkways, porches, patios, entries or other use areas.
- d) Bay and picture windows are intended to provide a ‘public face’ to the street and articulate the front facade of the house:
 - i. Picture windows on front elevations; bay windows on front or side elevations.
 - ii. Divided-light windows are encouraged.
- e) Dormers are intended to reduce the scale and mass of the roof, introduce accent materials into the roof zone and to provide light to second story living areas.
- f) Side-yard gates are intended to visually extend the facade of the residence into the landscape and unify the appearance of the front elevation;
 - i. Fence/wall materials the same or compatible with the materials and colors of the house;
 - ii. Gates may be similar or contrasting material to fences (e.g., solid wood, open lattice, metal, decorative iron, etc.).

ATTACHED HOUSING

Policy 7.4.8 General Requirements. Attached housing developments shall be subject to the following:

- a) Site planning of multi-family, attached housing shall maximize exposure of dwelling units to usable open space amenities and provide direct pedestrian connections to nearby destinations. Multi-family sites along the creek shall orient buildings, landscape areas, amenities and pedestrian pathways to connect to the creek open space corridor.
- b) In the Village Core multi-family housing shall be designed as traditional, street-oriented buildings, which may include duplexes, townhomes, condominiums or apartments.
- c) Except for the Village Core, multi-family complexes shall be designed around common open space or focal areas. Pools, laundry areas, tot lots athletic facilities or similar amenities should be incorporated in the central focus areas.
- d) Building design should emphasize individual dwellings by offsetting and staggering separate units and carefully combining one and two story elements to achieve a complex, interesting building form.

- e) Parking for multi-family housing shall be designed to avoid large parking lots, but rather to provide parking in small lots or “streets” near dwelling units located to the rear or sides of buildings.
- f) Use of carports is encouraged. A minimum of 60% of required parking shall be covered. Carports should be screened from public roadways, and designed as an integral part of the building complex.
- g) Carports, canopies, trellises or heavily planted landscape areas shall be used to screen and visually soften parking lots.
- h) Parking shall be screened from public streets by a combination of plant materials, earth forms, or architectural elements.
- i) Trash receptacles shall be fully enclosed and screened from view. Enclosures shall be compatible with the building architecture. Gates shall be of solid construction and entirely block views of the receptacle.

SECONDARY DWELLING UNITS

Policy 7.4.9 Secondary Dwelling Units. In addition to those uses permitted in this Specific Plan’s residential districts (including Planned Developments with residential standards), one secondary dwelling unit per lot may be permitted, subject to approval of a Conditional Use Permit and subject to the following requirements:

- a) Secondary units shall be limited to lots having not more than one existing dwelling unit on the lot.
- b) Secondary units may be attached or detached from the primary residence but shall not exceed 640 square feet in area.
- c) One story, secondary units shall be no more than 15 feet in height. Second units located above detached garages may be up to a total height of 24 feet or the height of the primary residence, whichever is lower.
- d) Parking shall be provided at a rate of one additional off-street parking space per unit.

Policy 7.4.10 Green Building Practices. To the extent feasible, all site and building development shall incorporate environmentally sustainable, green building practices in the design and construction process.

7.5 MIXED USE VILLAGE CORE

URBAN DESIGN

The Village Core is intended to be pedestrian in scale, with tree-shaded streets and the majority of smaller, retail and civic uses oriented to the street. The urban design vision for the Village Core is focused on the key east/west retail street (“Market Street”) and the streets surrounding the Village Commons east of North Livermore.

Policy 7.5.1 Build-to-Line. Development within Village Core shall establish a minimum percentage of fronting retail (retail uses facing the public streets) as identified by the Build-to-Line Diagram (Figure 7.25).

Policy 7.5.2 Urban Design. Recognizing that the build-out of the Village Core will be over a 20 year time frame, development within the Village Core shall meet the following requirements:

- a) The Village Core shall consist of a small, compact district contained within a few walkable blocks.
- b) The Village Core shall be approximately equally divided east and west of North Livermore Avenue, with a small, east/west retail-oriented street (three blocks maximum) serving as the main pedestrian commercial area (“Market Street”). Buildings along Market Street shall front directly onto the street and provide retail opportunities.
- c) As many buildings as possible, but not less than 70%, shall front onto the Village Commons and Market Street (see Figures 7.23, 7.24 and 7.25).
- d) As many buildings as possible, but not less than the percentage indicated below, shall be built to the ROW (see Figure 7.25):
 - i. At least 70% of the building frontage that faces onto Market Street and Village Commons shall be built to the Right-of Way (ROW).
 - ii. At least 50% of the residential building frontage for parcels F, G, J, K, Q, V, and W shall be built to the ROW.
 - iii. At least 30% of the building frontage as indicated in Parcels A, E, L, N, and P shall be built to the ROW.
- e) A mix of ground floor and second story uses are encouraged, particularly adjacent to the Village Commons and Market Street. In particular, second story uses are encouraged at street intersections and to terminate vistas.
- f) Market Street should be anchored by retail, park, and/or civic uses.
- g) Street elevations within the Village Core should reflect varying styles, and not be of a particular theme (Figure 7.24). The scale and massing of the elevations shall respond to a pedestrian scale, and not be dominated by blank walls or all glass.
- h) All sides of buildings visible to the public should be detailed as active, interesting facades. Service areas and facades not visible may be simpler in treatment.
- i) A maximum setback of 10 feet is permissible for a small portion of any building that fronts directly onto the street ROW. This is intended to accommodate building entries or additional café seating.
- j) Outdoor seating for sidewalk cafes shall be consistent with City requirements for similar uses in the existing downtown area (see Livermore Zoning Ordinance Section: Sidewalk Cafes, Merchant Vendors in the Downtown Commercial Area).
- k) The Village Commons shall be designed as an appealing urban park, intended to function as the formal “town green”, providing convenient pedestrian circulation between portions of the Village Core, comfortable seating areas that are protected from sun and other pedestrian amenities such as gathering places and fountains.
- l) Market Street and the streets surrounding the Village Commons shall include diagonal parking and 16 foot sidewalks that allow for adequate vehicular accessibility and pedestrian visibility and amenities.
- m) Street layouts and pedestrian/bicycle paths in neighborhoods surrounding the Village Core shall be designed to facilitate access to the Village Core. The grid street pattern, where appropriate, shall extend from the Village Core into adjacent residential areas.
- n) A regular street and pedestrian path pattern shall be provided within the Village Core. In general, blocks should be short (300 feet typical) to allow for pedestrian walking, particularly along the retail street:
 - i. in limited areas, parcels may be aggregated to form larger development sites to accommodate uses which enhance the Village Core and better serve the community shopping needs;
 - ii. in the event such aggregation occurs, driveways and/or pedestrian linkages serving these larger parcels shall be located mid-block (excluding the diagonal roadway to the east of North Livermore Avenue) to integrate such development into the urban design pattern and preserve the street grid.

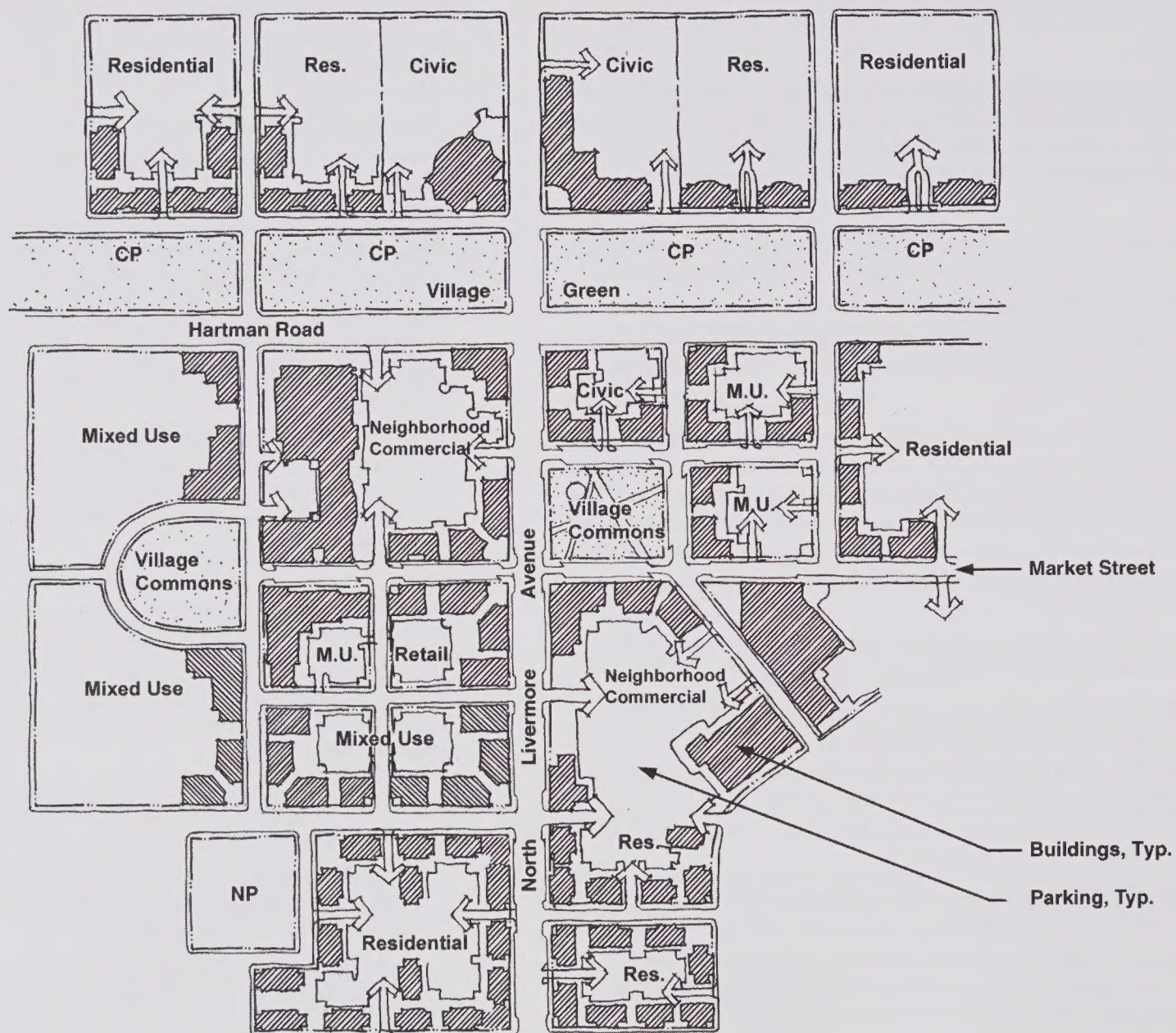
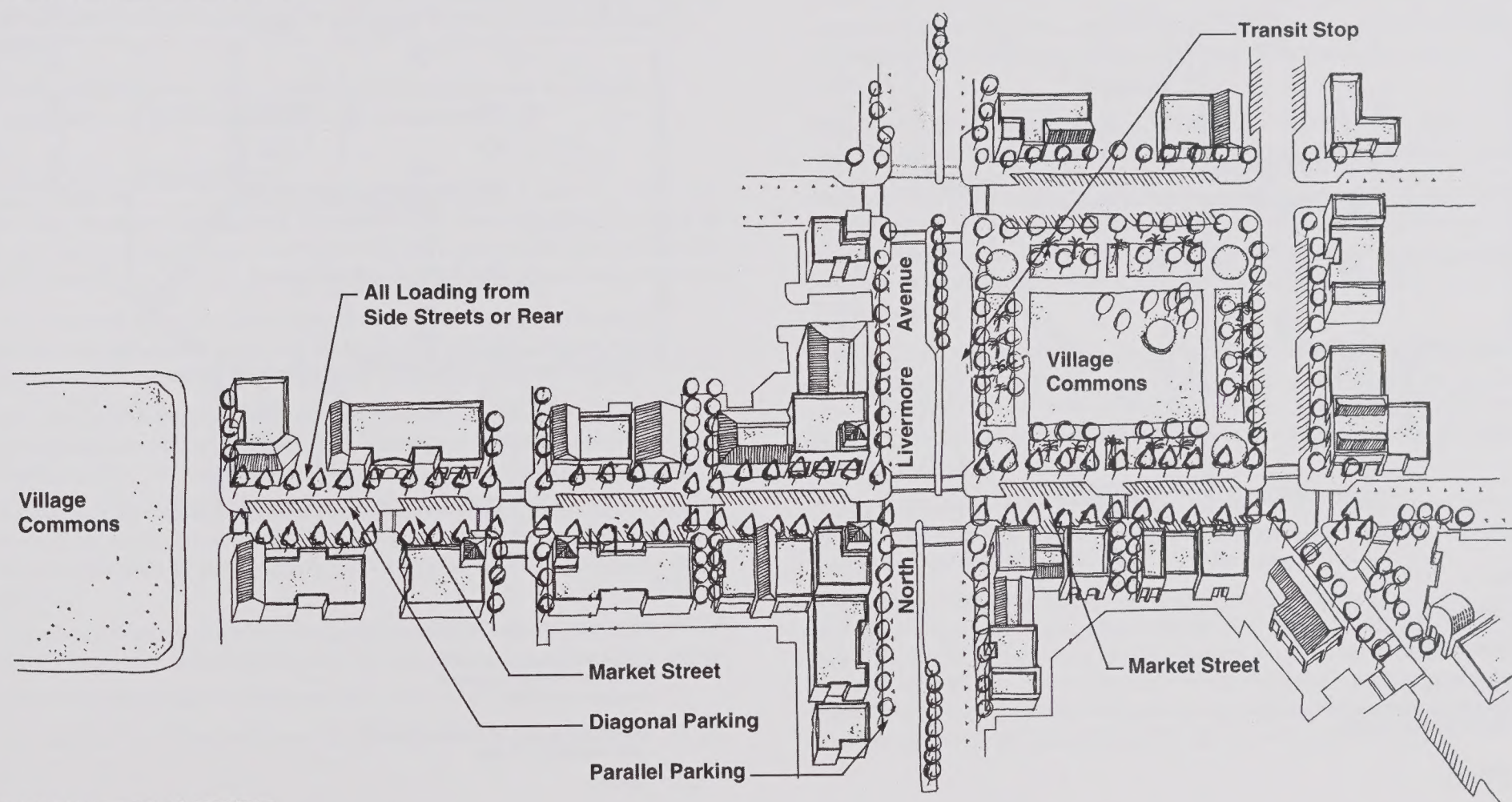


FIGURE 7.23: VILLAGE CORE MASSING CONCEPT



TYPICAL STREET ELEVATION



MARKET STREET CONCEPT

FIGURE 7.24: VILLAGE CORE STREET ELEVATIONS AND COMMONS

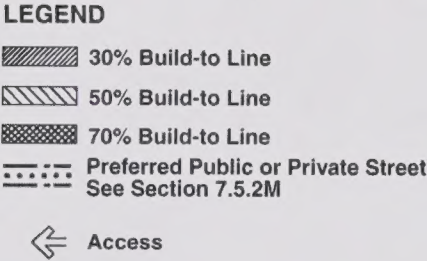
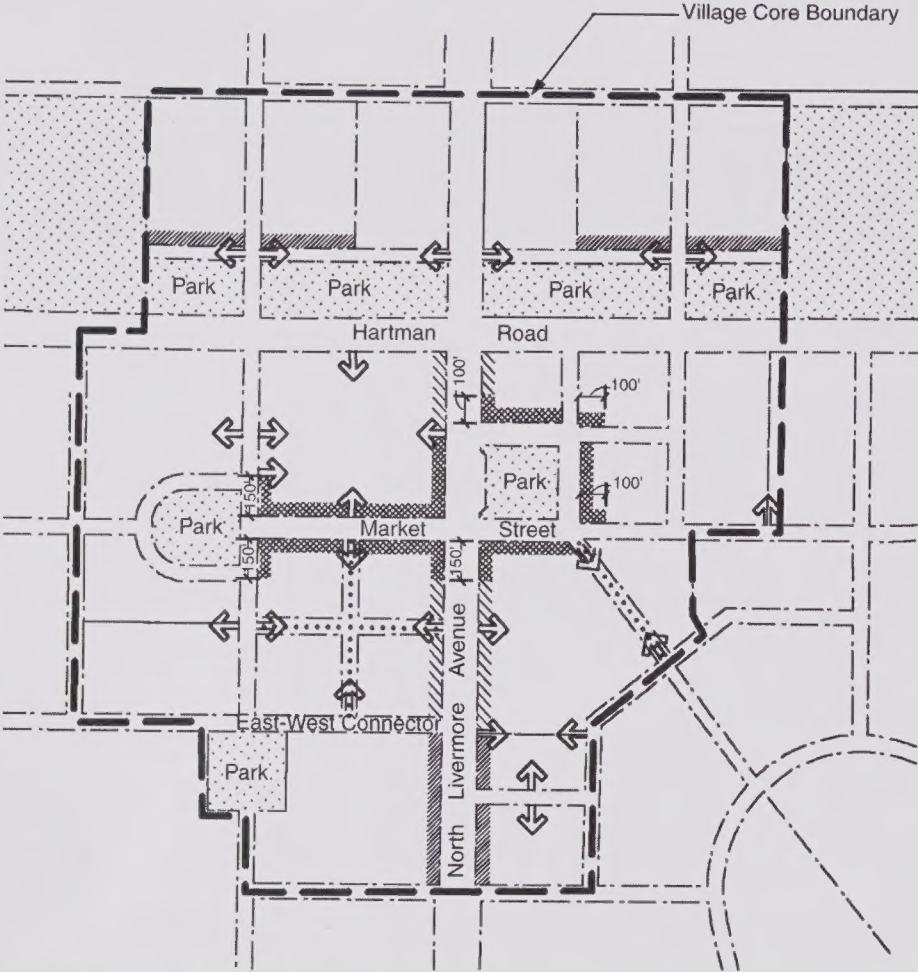


FIGURE 7.25: VILLAGE CORE BUILD-TO DIAGRAM

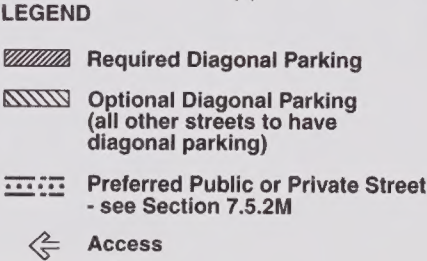
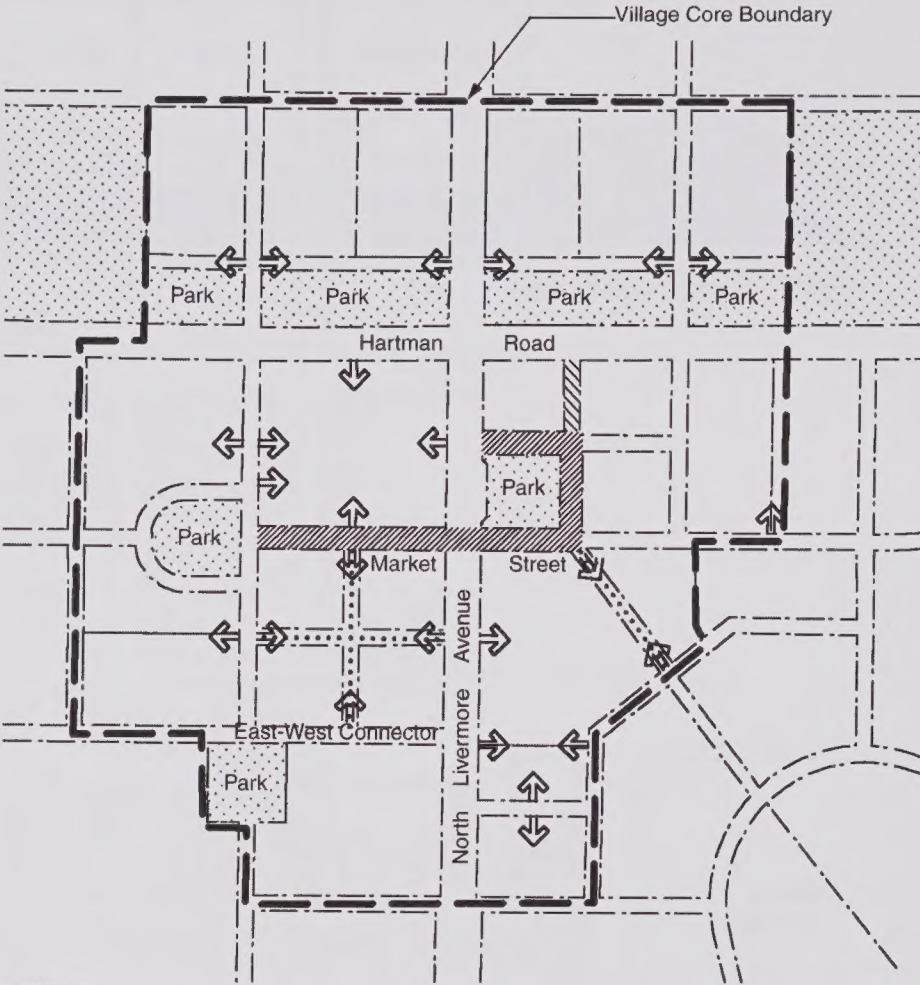


FIGURE 7.26: VILLAGE CORE REQUIRED ON-STREET PARKING

- o) All rooftop equipment shall be screened from public view.

PARKING AND LOADING

Parking: See Section 7.1.2 Parking, and Section 7.1.1 Landscape.

Policy 7.5.3 Service, Loading and Trash Areas

- a) For streets with diagonal parking, all building loading and service shall be provided from the rear of the building.
- b) Areas for receiving and loading of materials on the premises shall be located away from the public street to which the use is oriented. Loading areas shall be screened from all public streets and views from areas frequented by the public.
- c) Trash collection areas shall be screened from public view utilizing a combination of architectural and landscape elements.

7.6 SUPPORT COMMERCIAL

Policy 7.6.1 Support Commercial Standards. In order to reinforce the sense of entry to North Livermore from Las Positas Road, support commercial uses at Las Colinas Avenue and Calle Las Positas shall be subject to the following provisions:

- a) Development of the support commercial sites shall minimize negative impacts on residential areas (e.g. noise, light glare, etc.), and reflect a commonality in architectural character, materials, color, and signage.
- b) All sides of buildings visible to the public should be detailed as active, interesting facades. Service areas and facades not visible may be simpler in treatment, but shall not be dominated by blank walls or all glass.
- c) Areas for receiving and loading of materials on the premises shall be located away from the public street to which the use is oriented. Loading areas shall be screened from all public streets and views from areas frequented by the public.
- d) All service, loading and trash storage areas shall be screened from public view utilizing a combination of architectural and landscape elements.
- e) All rooftop equipment shall be screened from public view.
- f) See Section 7.11.6 for landscape standards applicable to parking lots.

7.7 BICYCLE AND PEDESTRIAN FACILITIES

Figure 7.27: Pedestrian and Bicycle Circulation illustrates the trails and paths proposed for North Livermore. Figure 7.28: Creek Corridor Trail Network provides additional information about the location of multi-use trails and equestrian paths, in addition to treatment of the creek corridors. Facilities to be constructed as part of streets are further described as part of street sections in this chapter. Chapter Three: Circulation provides additional policies relating to the trails system., and Chapter Five: Community Services and Facilities describes the park system, creeks and greenbelt buffer which contain elements of the trail system.

Policy 7.7.1 Trail System. Trails shall be provided as described by Figure 7.27: Pedestrian and Bicycle Circulation and Figure 7.28: Creek Corridor Trail Network.

Policy 7.7.2 Trail Access. Trail access should be provided for a range of user capabilities and needs in a manner consistent with State and Federal regulations.

Policy 7.7.3 Trail Routing. Locate, design, and develop trail routes with sensitivity to their potential environmental, recreational, and other impacts on adjacent lands and private property. During trail design, notify and coordinate with affected landowners to incorporate measures to address privacy, security and liability concerns.

Policy 7.7.4 Trail Standards. Trails standards contained in this Specific Plan, shall implement the *Livermore Bicycle/Pedestrian Plan Update and Equestrian Trails Study*, (1996) for trails within the Plan Area. Alternate materials including decomposed granite or shredded recycled tires may be substituted for asphaltic concrete subject to City approval.

Policy 7.7.5 Views from Trails. The City shall review development proposed adjacent to or near publicly accessible open space in the I-580/Zone C Hills to ensure that distant views from trails are maintained.

Policy 7.7.6 Multi-Use Paths. Multi-use paths shall be located along both sides of arterial streets, consisting of an eight foot (8') asphaltic concrete (A/C) path along the ROW, transitioning to concrete near neighborhood entries and intersections. Within creek corridors, and limited areas, to minimize grading impacts or to improve access to open space a single ten foot wide (10') multi-use path on one side may be substituted for the two standard 8-foot paths.

Policy 7.7.7 Pedestrian Connections. Convenient, pedestrian connections shall be provided to connect residential areas with nearby public facilities and open space, and to facilitate pedestrian movement between and within neighborhoods (see Figures 7.10, 7.11, 7.18 and 7.27,).

Policy 7.7.8 Trails in Annexed Land in the I-580 Hills. Developers of properties that include portions of the Zone C/I-580 Hills shall incorporate trails shown by Figure 3.2 into their project plans.

- a) Permit and encourage developers to implement trail improvements concurrent with development as an offset against project fees.
- b) Trail improvements may include pedestrian trails, occasional seating, appropriate tree plantings or other, similar improvements.

Policy 7.7.9 Sidewalks Linked to Multi-Use Paths. Sidewalks separated by a planted parkway strip shall be provided along all local and connector streets, and shall interconnect with the multi-use path and trails network. Sidewalks shall be five feet in width.

Policy 7.7.10 Appropriate Trails Use. Trails shall be designed to discourage inappropriate use. Use of motorized vehicles on trails shall be prohibited, except for wheelchairs, maintenance, and emergency vehicles. Coordinate trail design guidelines and trail design with Livermore Area Recreation and Parks District (LARPDP) and East Bay Regional Parks District (EBRPDP) to achieve consistency in design.

Policy 7.7.11 Timing of Trail Construction. Trails and paths within the urban area shall be constructed as part of adjacent infrastructure, including streets, parks, and drainage facilities. Hillside trails may include fire roads or smaller, single track trails, installed when adjacent housing or other development is built. Trails in the agricultural greenbelt shall be constructed as early as possible to connect to the creek corridor trails.

Policy 7.7.12 Coordination with Public Improvements. Public improvements projects that may impact existing or proposed trails, such as road widening, bridge construction, and flood control projects, should be designed to facilitate existing and/or future trail use.

Policy 7.7.13 Trails Maintenance. Depending on the location of the trail, LARPDP, EBRPDP, or other agencies as appropriate shall provide adequate ongoing maintenance of the trail system.

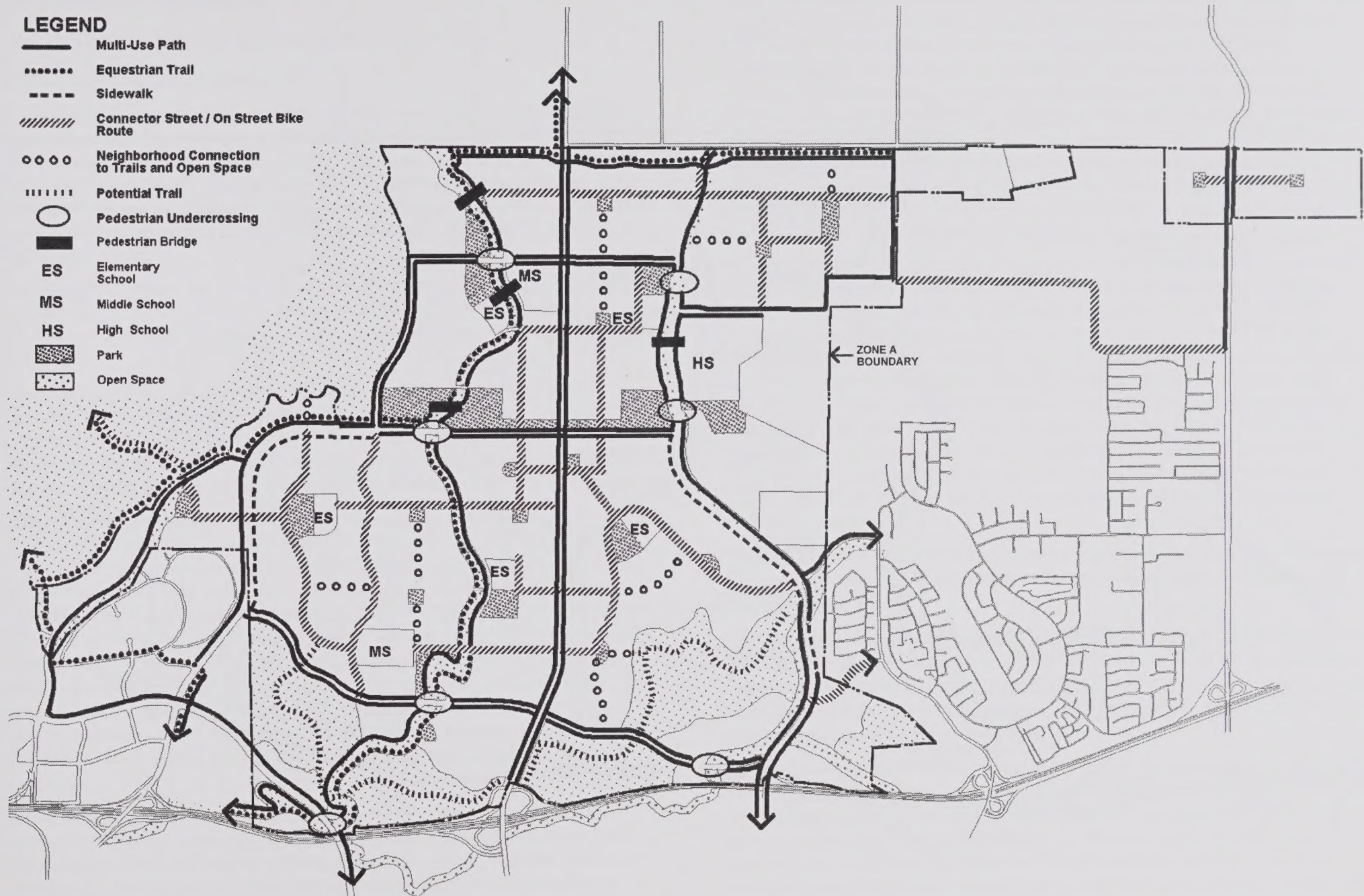


FIGURE 7.27: PEDESTRIAN AND BICYCLE CIRCULATION

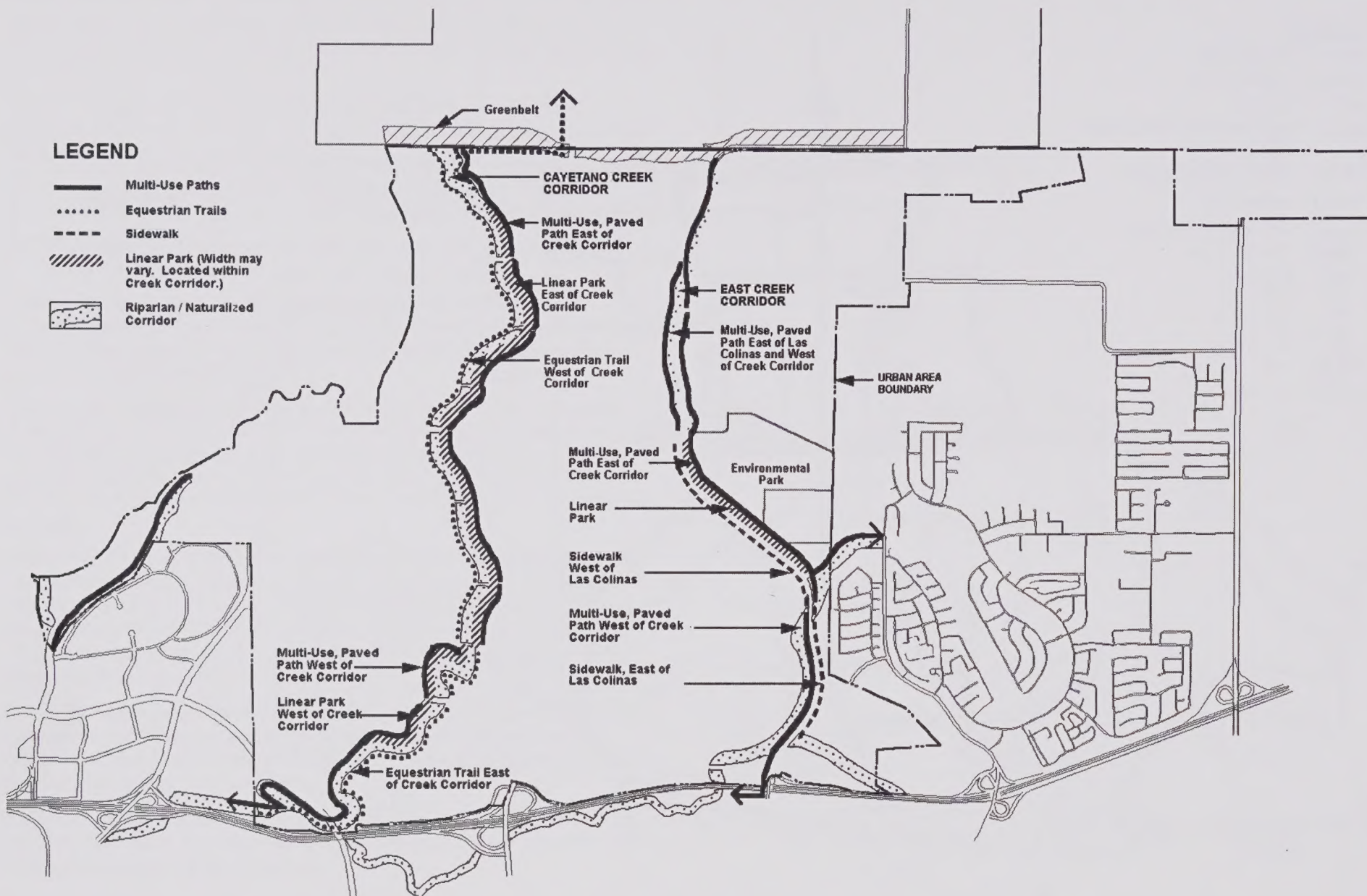


FIGURE 7.28: CREEK CORRIDOR TRAIL NETWORK

7.8 STREETSCAPE DESIGN

Also see Chapter Three for provisions relating to street layout.

STREETSCAPE DESIGN CONCEPT

Street rights-of-way and adjacent landscape areas are among the most visible components of public open space. This section provides guidelines for these critical elements to be incorporated in the community's roadway system. Figure 7.29: Streetscape Master Plan provides a key to roadway sections (Figures 7.30 through 7.53), which describe the design treatment for roadways within the Urban Area. Community gateways, entries and intersections are addressed in the following section.

The streetscape design for North Livermore is intended to reinforce the overall urban design structure of the community, including primary features such as topography, drainages, street pattern, and the focus of civic activity in the Village Core.

The landscape treatments described below will help establish a distinctive character for the community. Standards for arterial streets, creeks, greenbelts and connector streets are the most important to establish and therefore the amount of variety and flexibility is limited. Treatments of local streets, neighborhood parks or other local improvements are intended to allow greater flexibility and variety.

Hills vs. Valley Flatlands. The landscape of roadways in hillside areas (particularly arterial and connector streets) is intended to be distinguished by the predominant use of oak tree plantings along roadways and at the interface with adjacent slopes and open areas. In contrast, key east/west roadways in the flatlands (arterial and connector streets) are characterized by windrows of tall columnar trees, such as eucalyptus or poplars, and secondary windrows of other vertical tree species such as sweetgum. These east/west corridors, including the greenbelt along May School Road, are especially important as visual and physical connectors between parks and open space destinations within the community. Several roadways, including Hartman Road, Calle Las Positas, and Jensen Road will include both hillside and flatland treatments corresponding with the local condition.

North Livermore Avenue. North Livermore Avenue is the central, primary roadway linking the community from north to south. The landscape treatment is the most intensive of all arterial roadways and is intended to establish a distinct character for the community. The landscape concept is based on agricultural

patterns and materials, including a framework of regular, orchard-type plantings interrupted at street intersections by tall, vertical tree planting at intersections/neighborhood entries. This pattern will visually define a series of "rooms" thereby reducing the impression and visibility of development areas and wall treatments. The landscape area is designed as an important pedestrian corridor with the multi-use path located well away from the traffic lanes and with frequent connections provided to adjacent streets and dwellings. Groundplane plantings include native grasses and wildflowers between the roadway edge and the sidewalk, groundcovers and shrubs along the multi-use path, and vines planted along privacy walls where such walls occur. Additionally, a rural rail fence with regularly spaced stone pilasters is located near the roadway.

Hartman Road. This important roadway, which connects from I-580 past Las Positas College to the Village Core and high school will include three distinct planting approaches based on the adjacent land use and topography. The first treatment extends the landscape pattern of the Cayetano Business Park to the College and residential development areas. The second treatment responds to the curvilinear alignment and location through existing topography; and the third treatment establishes a regular pattern of canopy trees and evergreens along the Community Park from Jensen Road, through the Village Core to the Las Colinas Road and the high school. Groundplane plantings include native grasses and wildflowers between the roadway edge and the sidewalk, groundcovers and shrubs along the multi-use path, and vines planted along privacy walls where such walls occur.

Calle Las Positas, Jensen Road. These arterial streets include both two-lane and four-lane sections, as well as varying landscape treatments for hillside areas or flat, east/west portions.

Hillside areas will be landscaped with informal drifts of large canopy trees, while flat, valley sections reflect a vertical windrow treatment. Groundplane plantings include native grasses and wildflowers between the roadway edge and the sidewalk, groundcovers and shrubs along the multi-use path and vines planted along privacy walls where such walls occur.

Village Core District. The use of specimen trees at intersections, a distinct canopy tree throughout the district and urban walkways and building arrangements facing streets, intersections and parks distinguishes the Village Core from all other areas within North Livermore. Trees are located within the sidewalk area with tree grates where retail uses front the roadway. Elsewhere, trees are located in groundcover beds, with shrubs along non-fronting commercial buildings and parking areas.

Las Colinas Road and other Creekside Roadways. The landscape treatments of these roadways reflect the landscape of the creeks. Large canopy riparian trees are used along the creek edge, while medium-sized trees on the opposite side provide shaded streets that transition adjacent residential areas. Groundplane plantings include native grasses and wildflowers between the roadway edge and the sidewalk, groundcovers and shrubs along the multi-use path and vines planted along privacy walls where such walls occur.

GENERAL STREETSCAPE POLICIES

Policy 7.8.1 Streetscape and Entries Plan. This Plan establishes an approach for North Livermore Avenue and a concept for the remainder of the community. Prior to the first final map, a community-wide streetscape and entries plan shall be prepared. This plan shall be consistent with the approach and standards contained in this Specific Plan and shall address all elements within the right of way including: landscaping, pedestrian paths, grading, drainage and water quality treatments, neighborhood entry treatments, monuments and signs, privacy walls and lighting.

Policy 7.8.2 General Streetscape Design Requirements. The design of streetscapes shall conform to the cross-sections and treatments described by Figures 7.30 through 7.54, and applicable entry and wall treatments described in Section 7.10 and the following provisions:

- a) A planted parkway strip separating the curb and sidewalk shall be provided along both sides of all public streets except cul-de-sac ends provided with a planter in the center of the cul-de-sac (see Figure 7.14).
- b) For arterial streets the typical parkway shall consist of a shallow swale planted with native grasses and wildflowers. The swale is intended as an integral part of the water quality management system.
- c) Plant materials shall be selected from Table 7.7: Streetscape Plant Palette.
- d) Arterial street trees shall be chosen from a limited list of trees of a similar type (e.g. columnar, spreading) as designated for each street. A single species shall be used for continuous lengths of similar treatment for each street (e.g., windrow, hillside, etc.). Alternatively, two complementary species may be mixed together as the designated tree species.
- e) “Orchard Trees” identified for North Livermore Avenue may include a mix of species. However, a single species shall be used in any contiguous group of trees occurring along the roadway between entries or intersections, along both sides of the roadway and median.

- f) The use of palms is limited to the Village Core.
- g) Where informal tree masses are designated as the primary treatment, the intent is to create a natural appearing landscape that consists of a sequence of spaces and framed views along the roadway.
 - i. informal plantings may consist of a mix of tree species, but individual masses should generally consist of a single species;
 - ii. turf areas, ground covers and shrubs should be massed to accentuate the tree plantings;
 - iii. masses of ground covers and shrubs should be limited to a few, extensively used species. Variations to the basic palette should be used for accent and contrast;
 - iv. treatment of the ground plane should emphasize the use of drought tolerant and generally low maintenance plant materials. Areas of manicured turf should be concentrated into high use and formal areas only;
 - v. plantings should be chosen to provide flowering unique vegetative color or other interest throughout the year (e.g. spring-flowering shrubs, summer-flowering groundcover, trees with fall color).

Policy 7.8.3 Connector and local Street Landscaping. Landscaping of Connector and local streets shall be consistent with the following provisions:

- a) Connector streets shall be planted with a single species of tree, as designated by the Plant List (Table 7.6). In general, street trees should at maturity be medium or large canopy trees, equal to or greater than the height of adjacent homes or buildings. The planting pattern and species may vary at intersections to provide a flowering or contrasting tree.
- b) Connector streets designated as primary or secondary windrow streets (Figure 7.29) shall be planted with a double row of the designated street tree flanking the sidewalk (15-20 foot spacing).
- c) For other connector streets and all local streets, street trees shall be regularly spaced, planted in the parkway planting area, as follows:
 - i. for each lot, one tree shall be provided for each 30 feet of street frontage including;
 - ii. minimum of two trees shall be planted per lot,
 - iii. trees shall be typically spaced 30 feet on center, but may vary to accommodate street lights, driveways and utility boxes,
 - iv. trees shall be spaced a minimum 15 feet from another street tree, eight feet from street lights, and three feet from driveways,
 - v. where bumpouts are provided, trees may be shifted into the enlarged planter area provided sight safety distances are maintained.
- d) Trees may be shifted into the residential yards only at cul-de-sacs where circular planter areas (planted with trees) are provided. In these cases, street trees shall be located no more than five feet from the edge of sidewalk.
- e) Parkway groundcover plantings may include a mix of species but should be consistent along individual streets.

Policy 7.8.4 Village Core Identity Trees. A distinct “identity” tree such as Canary Island Palm shall be used exclusively within the Village Core. The identity tree shall be used consistently at intersection corners and within the Village Commons. Except for the corners, a single species of canopy or flowering trees of medium to large size shall be used in tree wells and planters within the 16-foot wide sidewalk. See Table 7.6: North Livermore Plant List:

Policy 7.8.5 Street Tree Spacing. Minimum tree spacing for roadway tree plantings shall be as indicated on Figures 7.30 through 7.53.

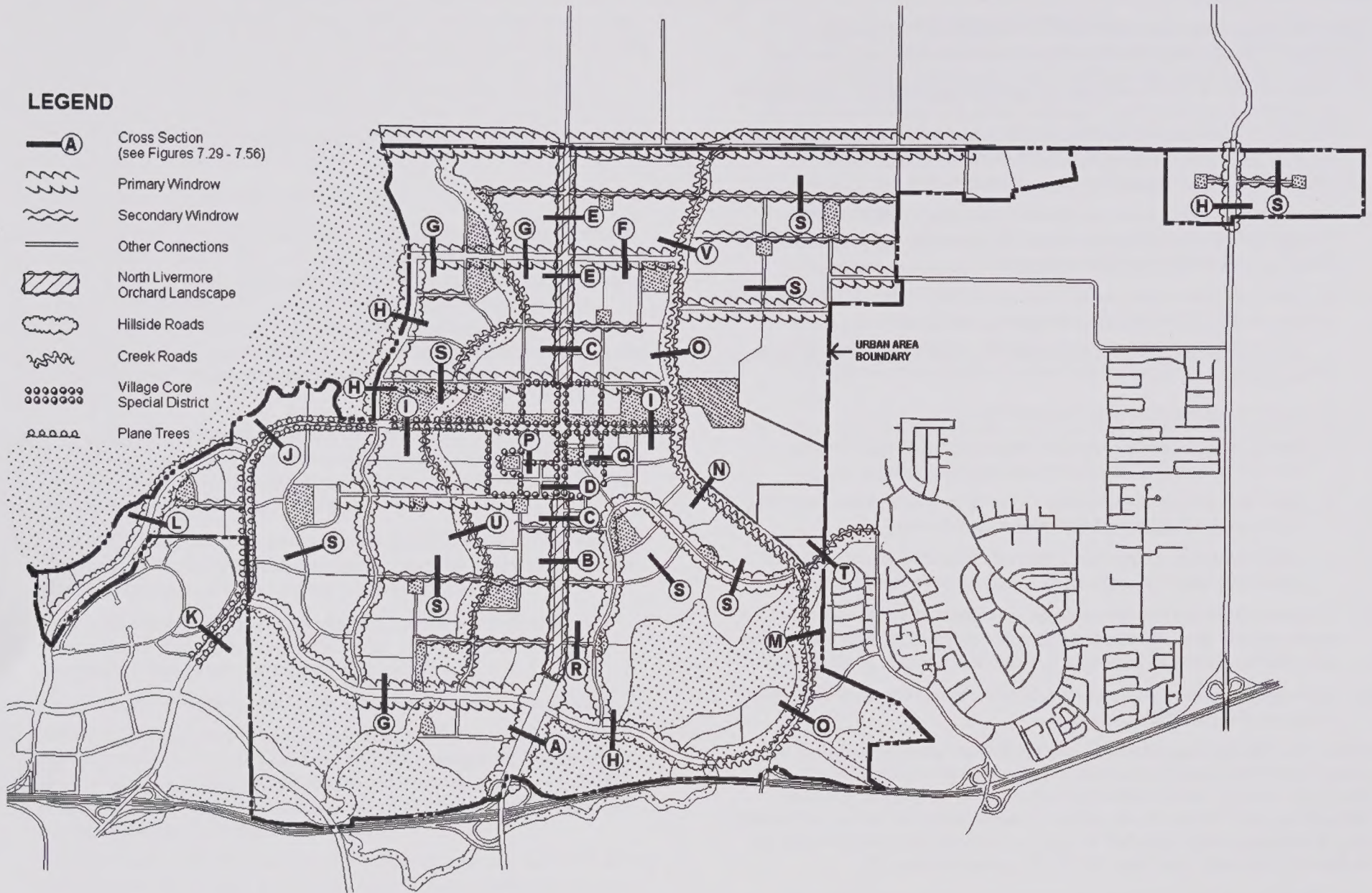
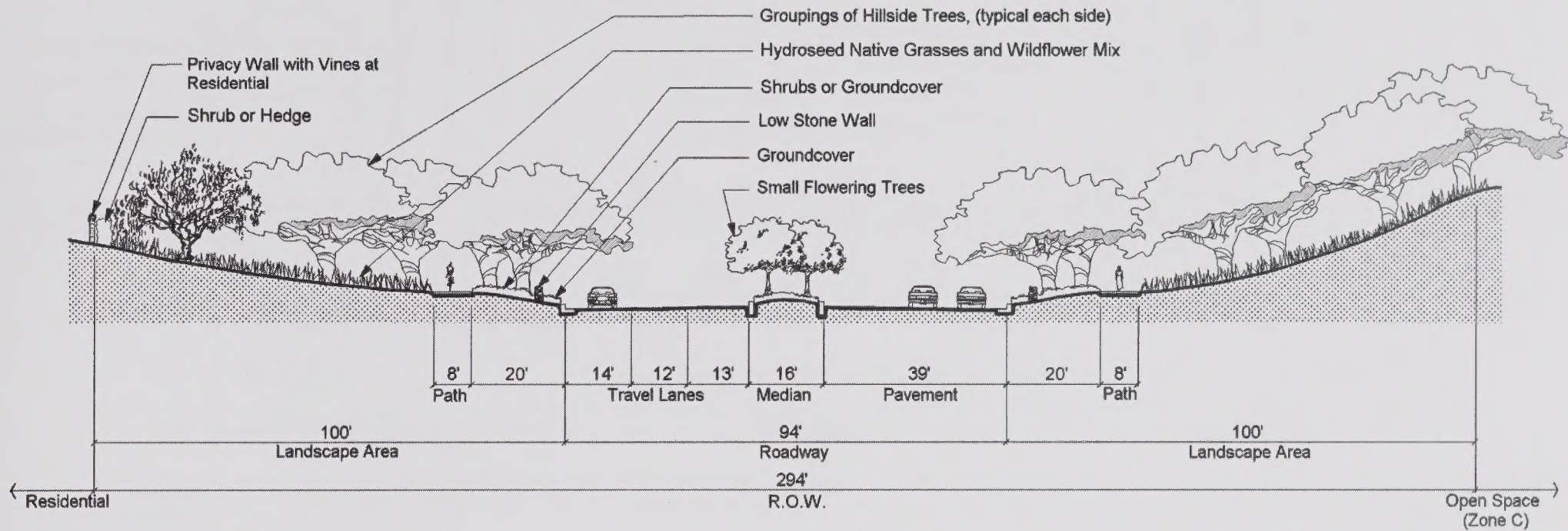


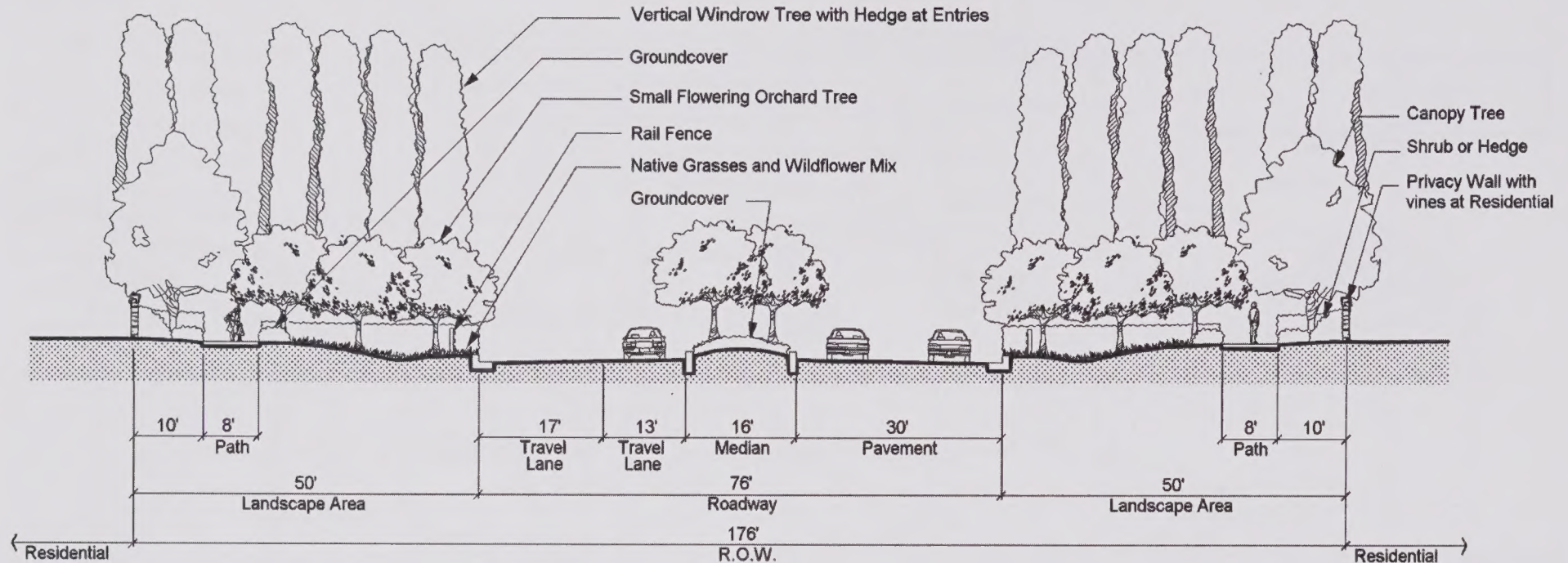
FIGURE 7.29: STREETSCAPE MASTER PLAN



STREETSCAPE REQUIREMENTS:

- 100 FOOT WIDE LANDSCAPE AREA BETWEEN I – 580 AND THE TYPICAL “ORCHARD” TREATMENT NORTH OF CALLE LAS POSITAS.
- CONTINUOUS LOW STONE WALL BETWEEN CURB AND PATHWAYS
- GROUPINGS OF HILLSIDE TREES TRANSITION INTO OPEN SPACE AREAS (1 TREE / 1,000 SQUARE FEET, MINIMUM)
- SCREEN TREES (20 FEET ON CENTER), SHRUBS AND VINES AT PRIVACY WALL.
- DOUBLE ROW OF FLOWERING MEDIAN TREES (15-20 FEET ON CENTER)
- GROUNDCOVER PLANTING IN MEDIAN AND BETWEEN ROADWAY AND PATHS. NATIVE GRASSES AND WILDFLOWERS BEHIND WALK, TRANSITION TO EXISTING GRASSLANDS.
- MULTIUSE PATHS ON BOTH SIDES OF ROADWAY, CONNECT TO PATHS SOUTH OF I – 580.
- SIX FOOT HIGH PRIVACY WALL AT RESIDENTIAL FRONTAGE ON WEST SIDE.
- PROVIDE MAINTENANCE PULLOUTS, 500' O.C., TYPICAL.
- SEE POLICY 7.10.1 FOR EDGE TREATMENTS.
- SEE PLAN VIEW, FIGURE 7.57.

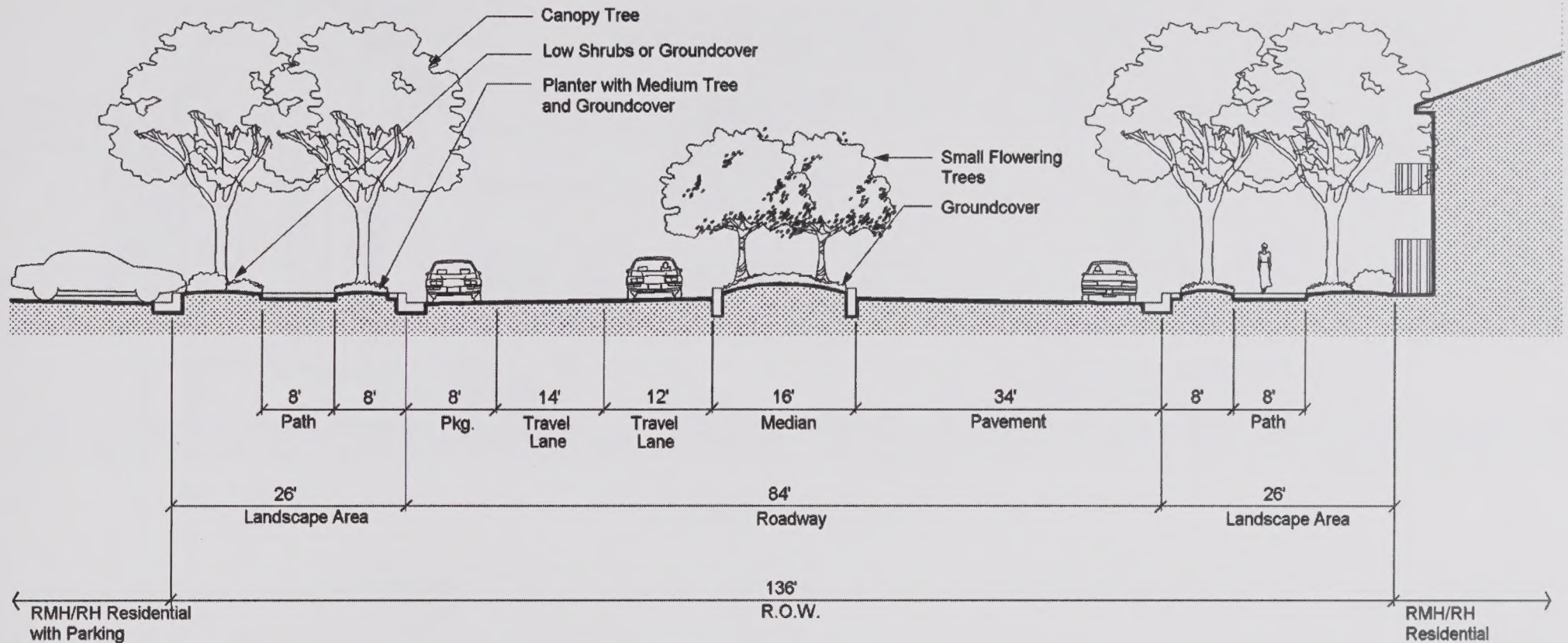
FIGURE 7.30: SECTION A – NORTH LIVERMORE AVENUE AT I – 580 GATEWAY TO CALLE LAS POSITAS



STREETSCAPE REQUIREMENTS:

- 50 FOOT WIDE LANDSCAPE AREA
- CANOPY TREE BETWEEN PATHS AND RESIDENTIAL USE (20 FEET O.C.)
- GROVES OF FLOWERING ORCHARD TREES, THREE ROWS EACH SIDE, TWO IN MEDIAN. ORCHARD TREES TO BE THE SAME SPECIES WITHIN EACH 'BLOCK' OF PLANTING BETWEEN INTERSECTIONS (SPACING 15-20 FEET O.C.)
- 42 INCH HIGH RAIL FENCE WITH FOUR – FOOT HIGH STONE PILASTERS SET APPROXIMATELY 200 FEET APART.
- GROVES OF VERTICAL HEDGEROW TREES AT NEIGHBORHOOD ENTRIES (SPACING 10-15 FEET O.C.).
- CONTINUOUS MULTIUSE PATHS BETWEEN ORCHARD TREES AND CANOPY TREES.
- SIX – FOOT HIGH PRIVACY WALL AT RESIDENTIAL USES BACKING ROADWAY. WALL AT SIDEYARDS BETWEEN OPEN ENDED CUL – DE – SACS/LOOP STREET. WALLS PLANTED WITH VINES TO COVER IN FIVE YEARS.
- GROUNDCOVER IN MEDIAN.
- NATIVE GRASSES AND WILDFLOWERS BETWEEN ROADWAY EDGE AND PATHWAY IN NPDES SWALE.
- SEE POLICY 7.10.1 FOR EDGE TREATMENTS.

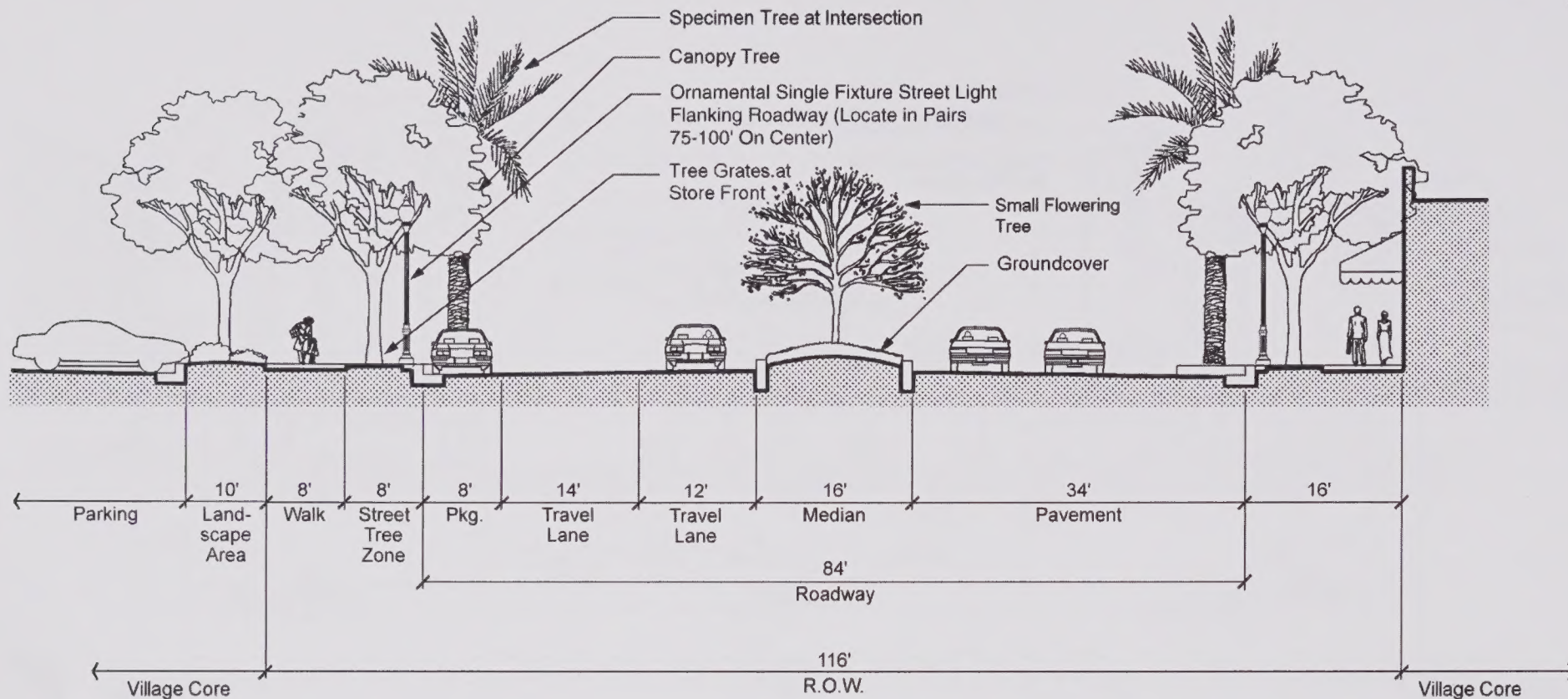
FIGURE 7.31: SECTION B – NORTH LIVERMORE AVENUE SOUTH OF VILLAGE CORE



STREETSCAPE REQUIREMENTS:

- 26 FOOT WIDE LANDSCAPE AREA WITHIN VILLAGE CORE AT ATTACHED RESIDENTIAL AND NON – FRONTING COMMERCIAL USES AND PARKING LOTS.
- DOUBLE ROW OF CANOPY TREES, EACH SIDE, FLANKING MULTIUSE PATHS (SPACING 25-30 FEET O.C.). ROW CLOSEST TO ROADWAY PLANTED IN PLANTER STRIPS ALLOWING PEDESTRIAN ACCESS TO ON – STREET PARKING.
- FLOWERING TREES IN MEDIAN, CONTINUOUS THROUGH VILLAGE CORE (SPACING 15020 FEET O.C.).
- GROUNDCOVERS AND SHRUBS IN PLANTING STRIPS AND BETWEEN PATHWAY AND BUILDINGS OR PARKING.

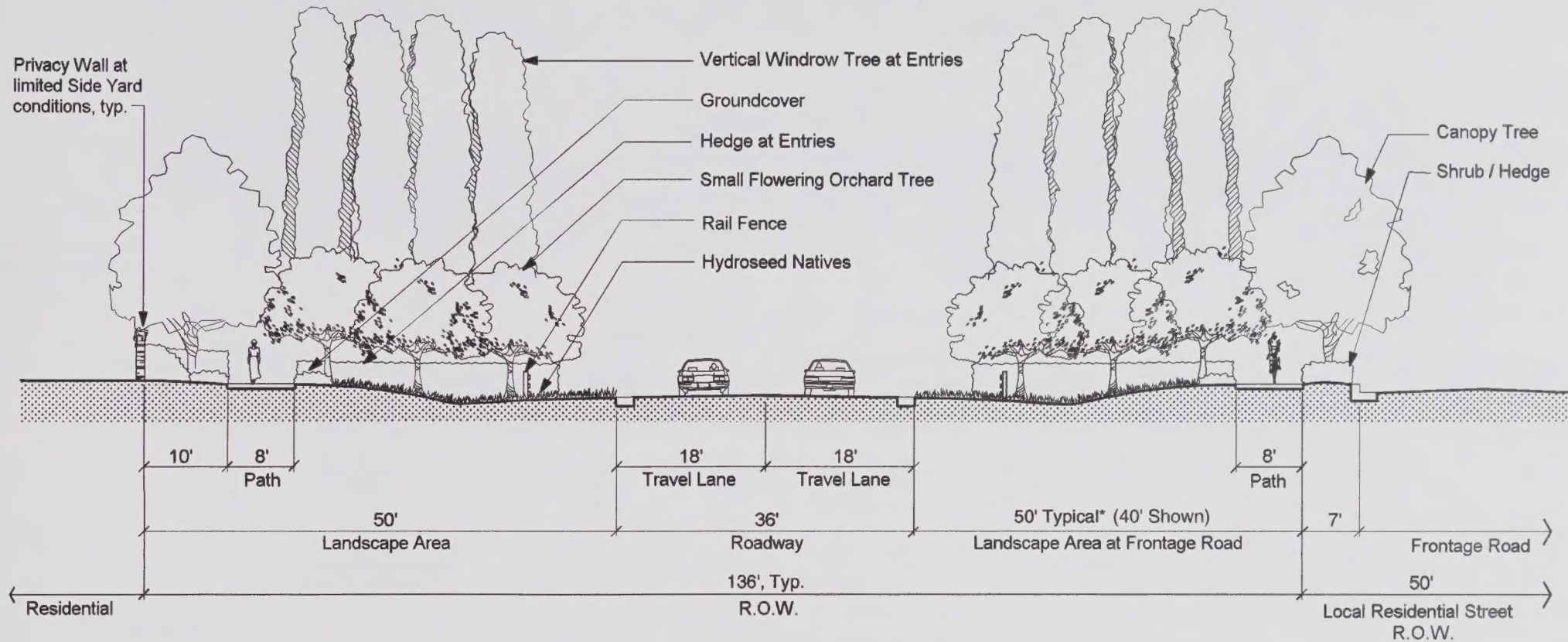
FIGURE 7.32: SECTION C – NORTH LIVERMORE AT VILLAGE CORE/ATTACHED RESIDENTIAL



NOTES:

- DISTINCT SPECIMEN TREE SUCH AS CANARY ISLAND PALM OR FAN PALM AT INTERSECTION CORNERS THROUGHOUT VILLAGE CORE.
- CANOPY TREE PLANTED IN TREE WELLS AND PLANTERS THROUGHOUT AREA: SINGLE ROW ALONG FRONTING COMMERCIAL, DOUBLE ROW AT NON-FRONTING COMMERCIAL AND PARKING LOTS (SPACING 25-30 FEET O.C.).
- SHRUBS OR GROUNDCOVERS WITHIN CURBED TREE WELLS, PLANTING STRIPS AND MEDIANS.
- TREE GRATES PROVIDED AT STORE FRONTS.
- SPECIAL SIDEWALK PAVING THROUGHOUT AREA.
- SEE POLICY 7.10.1 FOR EDGE TREATMENTS.

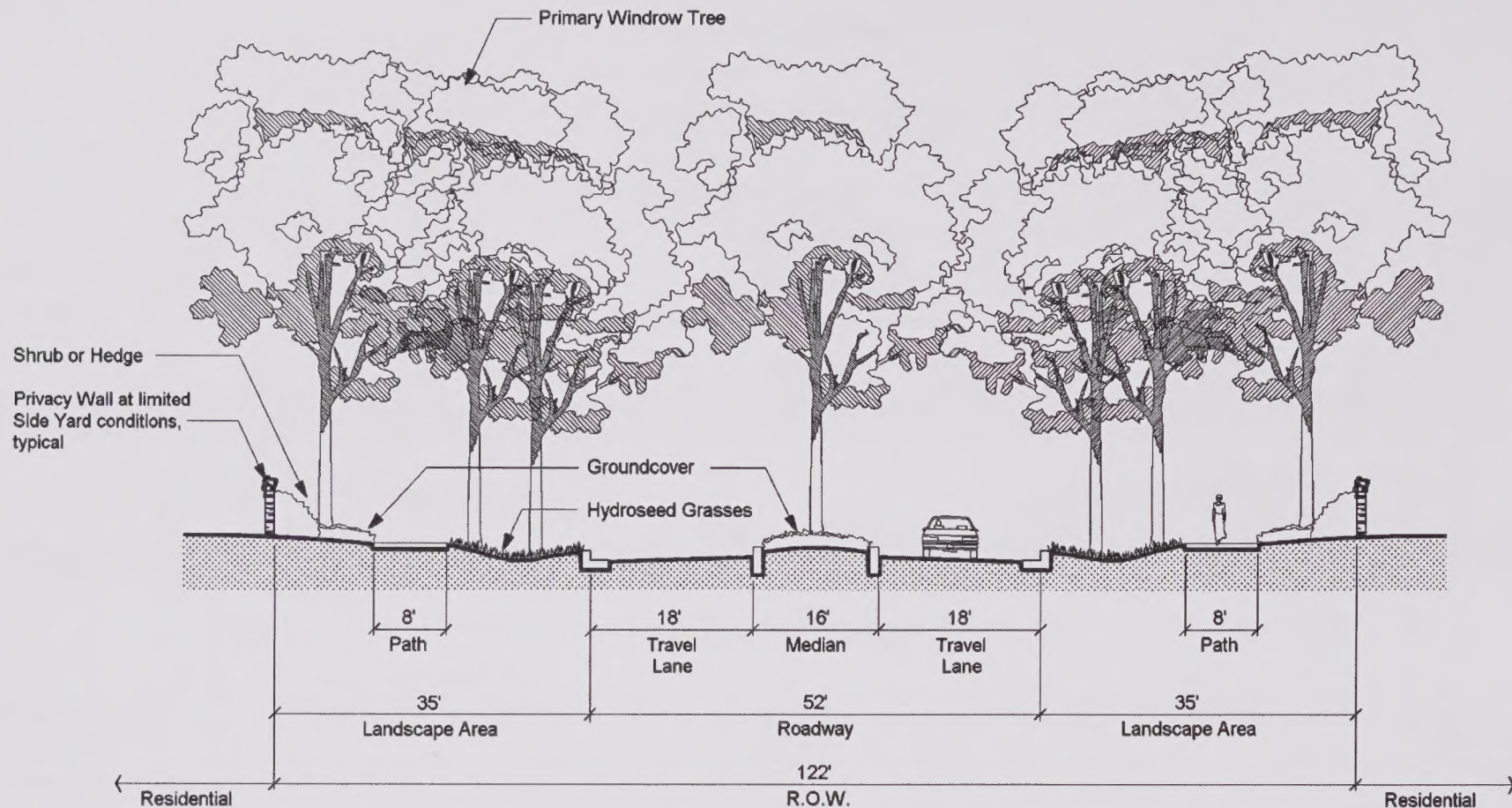
FIGURE 7.33: SECTION D – NORTH LIVERMORE AVENUE AT VILLAGE CORE/COMMERCIAL



STREETSCAPE REQUIREMENTS:

- 50 – FOOT WIDE LANDSCAPE AREA (MAY BE REDUCED TO 40 FEET AT FRONTING RESIDENTIAL, FRONTAGE STREETS OR LOOP STREET CONDITIONS).
- FRONTAGE STREET/LOOP STREET IS THE PREFERRED EDGE CONDITION.
- CANOPY TREE BETWEEN PATHS AND RESIDENTIAL USE (20 FEET O.C.).
- GROVES OF FLOWERING ORCHARD TREES, THREE ROWS EACH SIDE. ORCHARD TREES TO BE THE SAME SPECIES WITHIN EACH 'BLOCK' OF PLANTING BETWEEN INTERSECTIONS. ONE ROW OF ORCHARD TREES DELETED WHERE FRONTAGE ROADS OR LOOP STREETS OCCUR (15-20 FEET O.C.).
- 42 INCH TALL RAIL FENCE WITH FOUR – FOOT HIGH STONE PILASTERS SET APPROXIMATELY 200 FEET APART.
- GROVES OF VERTICAL HEDGEROW TREES AT NEIGHBORHOOD ENTRIES (10-15 FEET O.C.)
- CONTINUOUS MULTIUSE PATHS BETWEEN ORCHARD TREES AND CANOPY TREES.
- SIX – FOOT HIGH PRIVACY WALL AT RESIDENTIAL SIDE YARDS (LIMITED SIDE YARD AREAS ONLY). ALL WALLS PLANTED WITH VINES.
- NATIVE GRASSES (E.G., TALL FESCUE) AND WILDFLOWERS BETWEEN ROADWAY EDGE AND PATHWAY IN NPDES SWALE.
- SEE POLICY 7.10.1 FOR EDGE TREATMENTS.

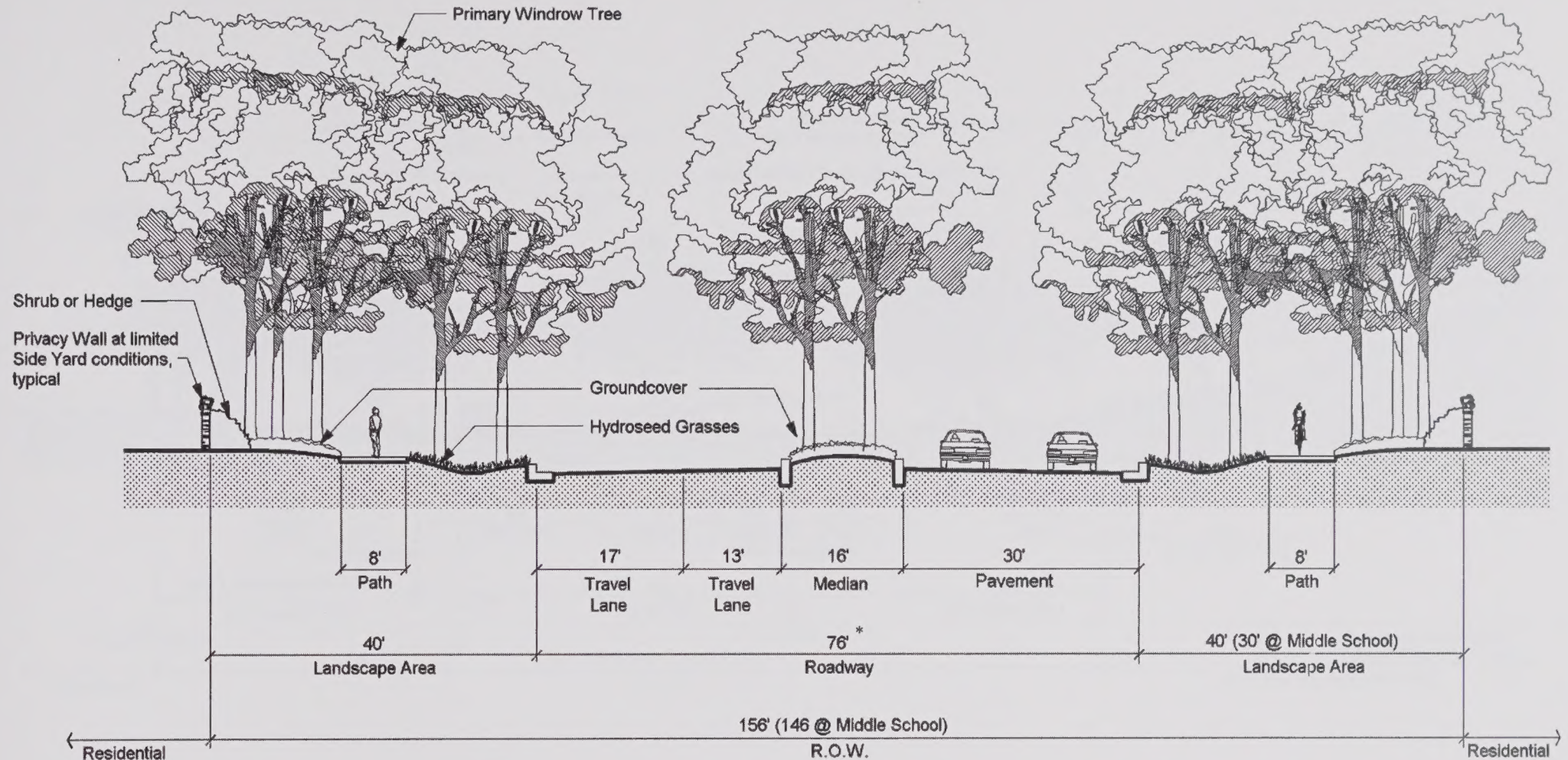
FIGURE 7.34: SECTION E – NORTH LIVERMORE AVENUE NORTH OF VILLAGE CORE



NOTES:

- 35 – FOOT WIDE LANDSCAPE AREA ALONG TWO – LANE ARTERIAL.
- PRIMARY WINDROW TREES PLANTED IN LANDSCAPE AREA AND MEDIAN, REGULAR OR INFORMAL SPACING (15-20 FEET O.C.)
- PREFERRED CONDITION IS FRONTING LOTS, OR SIDE – YARD FACING ARTERIAL STREET
- PRIVACY WALL ALLOWED AT LIMITED SIDE – YARD CONDITIONS.
- PATH MAY MEANDER WITHIN LANDSCAPE AREA OR BE ALIGNED STRAIGHT AS DESIRED.
- SHALLOW SWALE PLANTED WITH NATIVE GRASSES AND WILDFLOWERS. GROUNDCOVER IN MEDIAN.
- SEE POLICY 7.10.1 FOR EDGE TREATMENTS.

FIGURE 7.35: SECTION F – JENSEN ROAD EAST OF NORTH LIVERMORE AVENUE

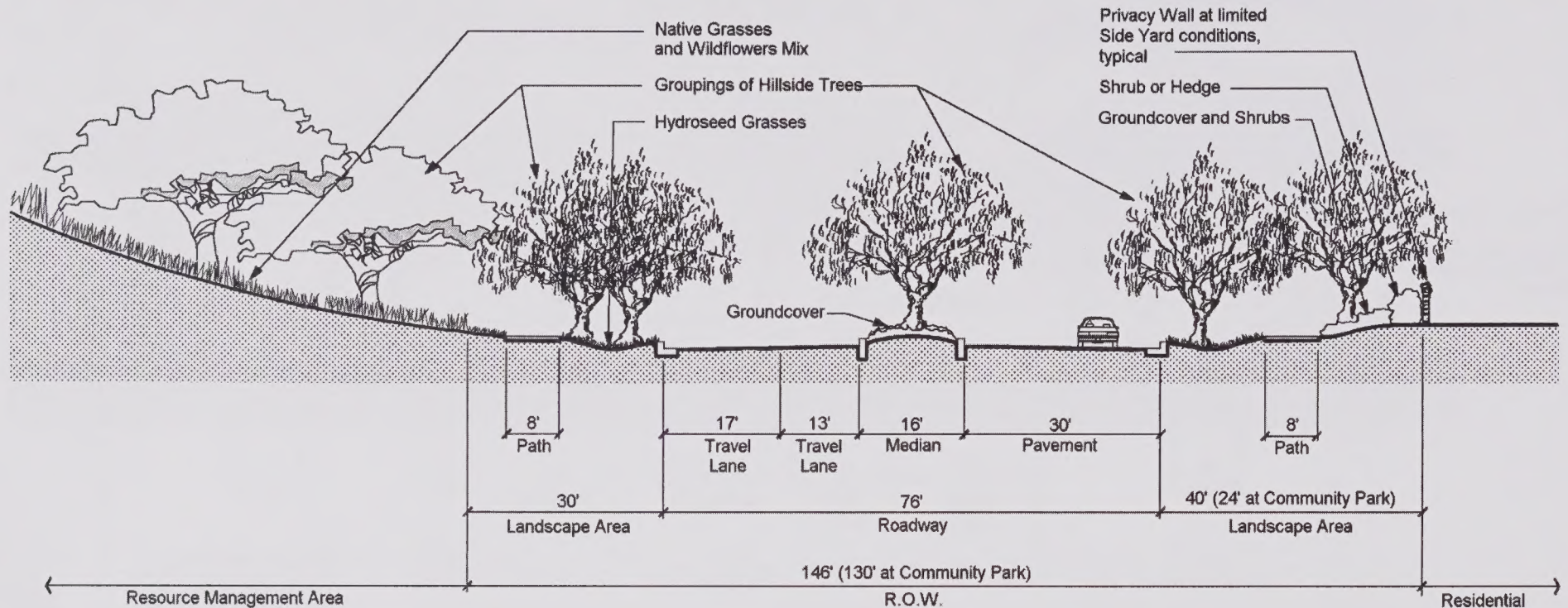


STREETSCAPE REQUIREMENTS:

- 40 – FOOT WIDE LANDSCAPE AREA ALONG FOUR – LANE ARTERIAL.
- PRIMARY WINDROW TREES PLANTED IN LANDSCAPE AREA AND MEDIAN, REGULAR OR INFORMAL SPACING (15-20 FEET O.C.)
- PREFERRED CONDITION IS FRONTING LOTS OR SIDE YARDS FACING ARTERIAL.
- PRIVACY WALL ALLOWED AT LIMITED SIDE – YARD CONDITIONS.
- PATH MAY MEANDER WITHIN LANDSCAPE AREA OR BE ALIGNED STRAIGHT AS DESIRED.
- SHALLOW SWALE PLANTED WITH NATIVE GRASSES AND WILDFLOWERS. GROUNDCOVER IN MEDIAN.
- SEE POLICY 7.10.1 FOR EDGE TREATMENTS.

* NOTE: 52' ROADWAY FOR JENSEN ROAD WEST OF NORTH LIVERMORE AVENUE TO THE HILLS. R/W REMAINS THE SAME.

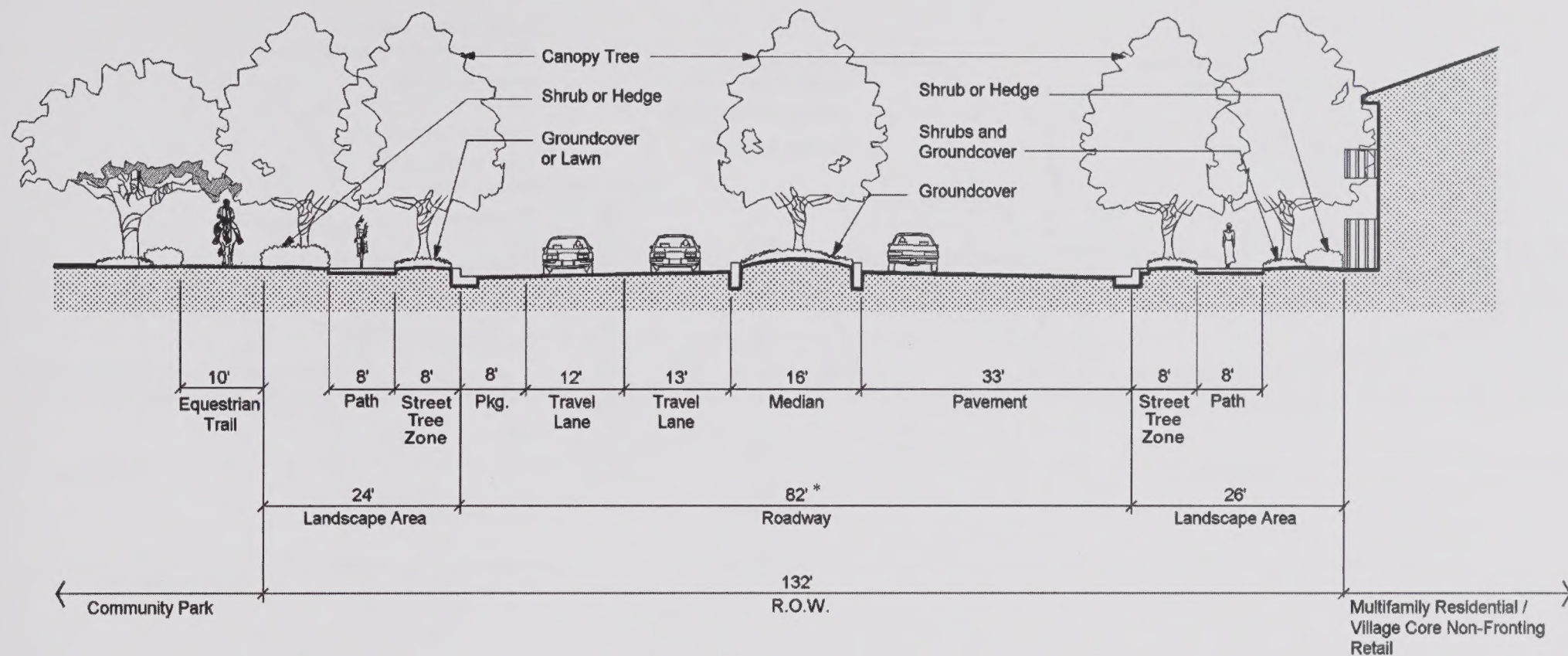
FIGURE 7.36: SECTION G – JENSEN ROAD AND CALLE LAS POSITAS (FLATLAND CONDITIONS)



NOTES:

- GROUPINGS OF HILLSIDE TREE SPECIES TO CREATE NATURALISTIC CHARACTER (1 TREE / 500 SQUARE FEET OF LANDSCAPE AREA).
- 40 – FOOT WIDE LANDSCAPE AREA WHERE ADJACENT TO DEVELOPMENT AREAS.
- 24 – FOOT LANDSCAPE AREA AT COMMUNITY PARK. PATH MAY MEANDER WITHIN ROW AND PARK.
- PRIVACY WALL ALONG LIMITED SIDE YARD CONDITIONS; WHERE PRIVACY WALL OCCURS, PLANTED WITH VINES AND SHRUBS; OPEN FENCE ACCEPTABLE.
- GROUNDPLANE PLANTED IN GRASSES, WILDFLOWERS BETWEEN PAVEMENT AND WALK; GROUNDCOVER IN MEDIAN; SHRUBS AND VINES ADJACENT TO RESIDENTIAL BERM OR WALL.
- SEE POLICY 7.10.1 FOR EDGE TREATMENTS.

FIGURE 7.37: SECTION H – JENSEN ROAD AND CALLE LAS POSITAS (HILLSIDE CONDITIONS)



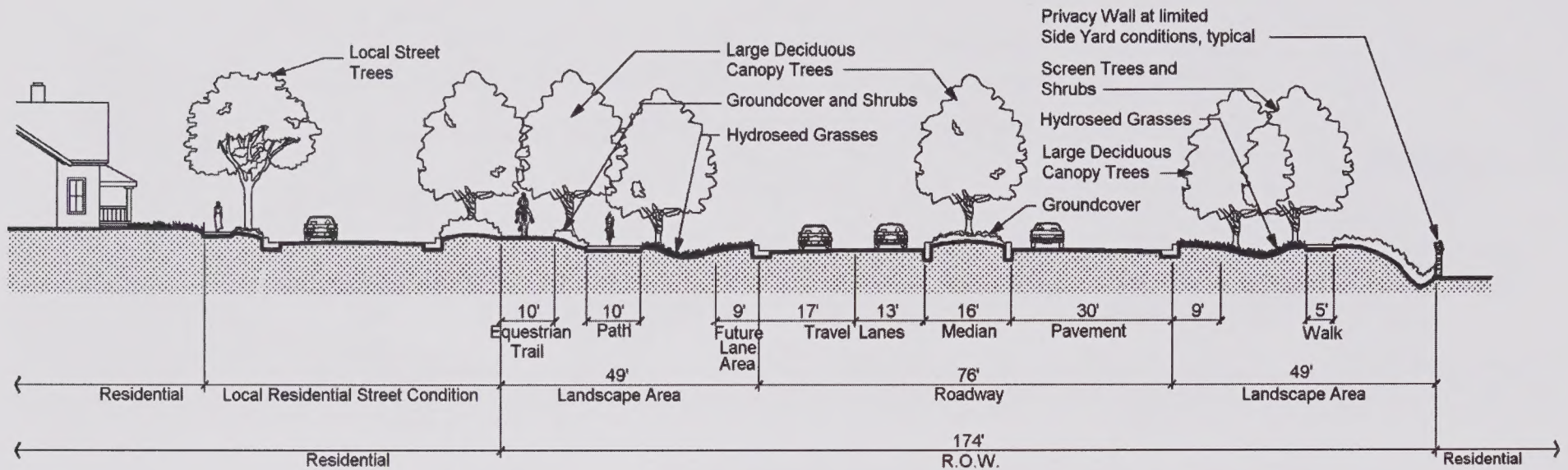
STREETSCAPE REQUIREMENTS:

- 26 FOOT LANDSCAPE AREA AT HIGH DENSITY RESIDENTIAL.
- 24 FOOT LANDSCAPE AREA AT COMMUNITY PARK.
- REGULAR, TRIANGULARLY SPACED CANOPY TREES FLANKING WALKWAYS AND IN MEDIAN (30 FEET ON CENTER).
- GROUNDCOVER/SHRUBS IN MEDIAN, PLANTER STRIPS, ADJACENT TO RESIDENTIAL AND SEPARATING ROADWAY LANDSCAPE FROM COMMUNITY PARK.

- ON – STREET PARALLEL PARKING ALONG COMMUNITY PARK AND HIGH DENSITY RESIDENTIAL.
- SEE POLICY 7.10.1 FOR EDGE TREATMENTS.
- SEE FIGURE 7.27 FOR EQUESTRIAN TRAIL LOCATION

* NOTE: 58 FOOT ROADWAY FOR HARTMAN ROAD EAST OF NORTH LIVERMORE AVENUE TO THE ENVIRONMENTAL PARK. R/W REMAINS THE SAME.

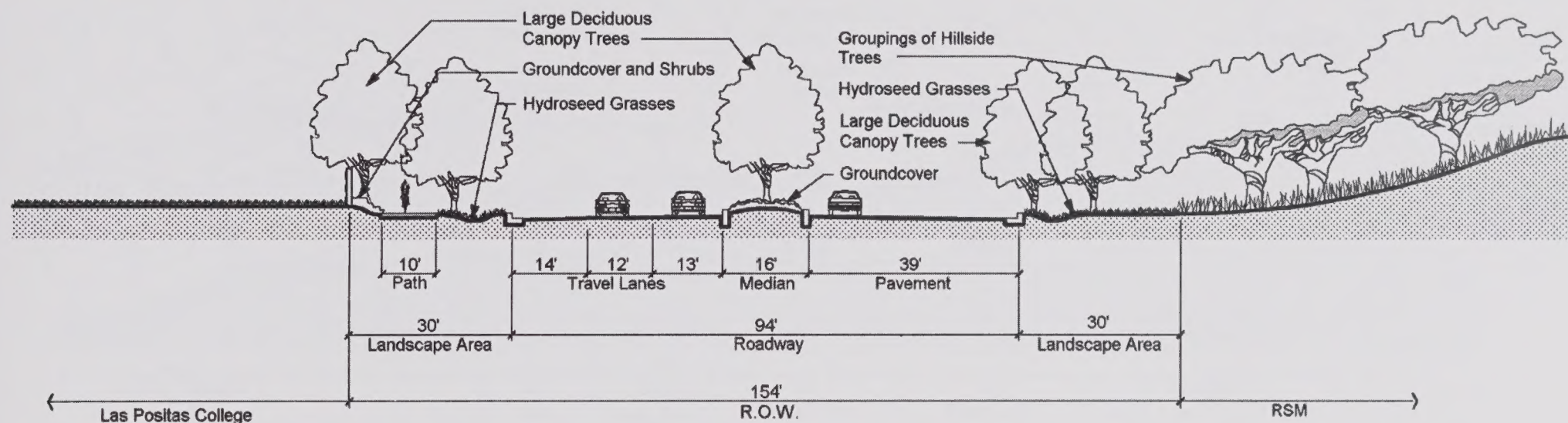
FIGURE 7.38: SECTION I – HARTMAN ROAD BETWEEN JENSEN ROAD AND LAS COLINAS AVENUE



STREETSCAPE REQUIREMENTS:

- REGULAR, TRIANGULARLY SPACED CANOPY TREES (30 FEET ON CENTER), FLANKING WALKWAYS AND IN MEDIAN
- SHALLOW SWALE BOTH SIDES WHERE GRADES PERMIT, PLANTED IN GRASSES AND WILDFLOWERS.
- WIDER MULTIUSE PATH ALONG WEST SIDE, SIDEWALK ALONG EAST SIDE.
- RESIDENTIAL AT UPHILL CONDITION REQUIRES FRONTAGE ROAD/LOOP STREET WITH HOUSES FACING ARTERIAL STREET; DOWN HILL LOTS REQUIRE GRADE CHANGE/SIDE YARD TREATMENT.
- MEDIAN AND AREA BETWEEN EQUESTRIAN PATH AND PEDESTRIAN PATH PLANTED WITH SHRUBS AND GROUNDCOVERS.
- SEE POLICY 7.10.1 FOR EDGE TREATMENTS.
- SEE FIGURE 7.27 FOR EQUESTRIAN TRAIL LOCATIONS.

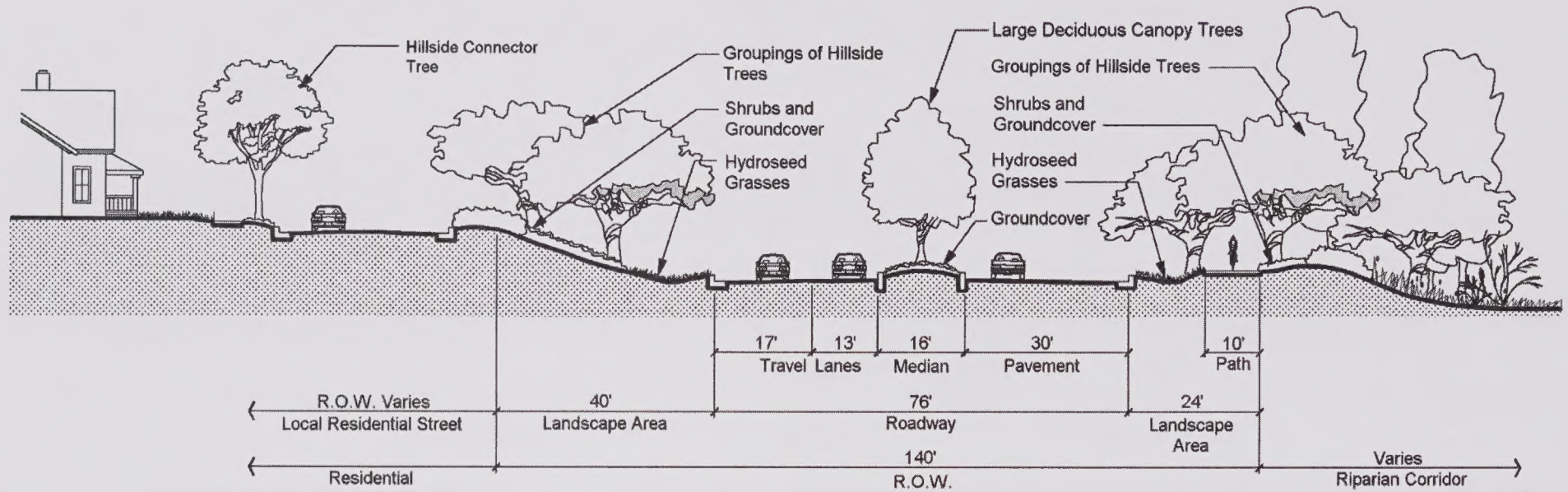
FIGURE 7.39: SECTION J – HARTMAN ROAD BETWEEN JENSEN ROAD AND CALLE LAS POSITAS



STREETSCAPE REQUIREMENTS:

- REGULAR, TRIANGULARLY SPACED CANOPY TREES PLANTED 30 FEET ON CENTER, FLANKING WALKWAYS AND IN MEDIAN
- SHALLOW NPDES SWALE BOTH SIDES WHERE GRADES PERMIT, PLANTED IN GRASSES AND WILDFLOWERS.
- WIDER MULTIUSE PATH ALONG WEST SIDE.
- LANDSCAPE AREAS MAY BE REDUCED TO MINIMIZE GRADING AND PROTECT NATURAL RESOURCES.
- SEE POLICY 7.10.1 FOR EDGE TREATMENTS.

FIGURE 7.40: SECTION K – HARTMAN ROAD – AT COLLEGE



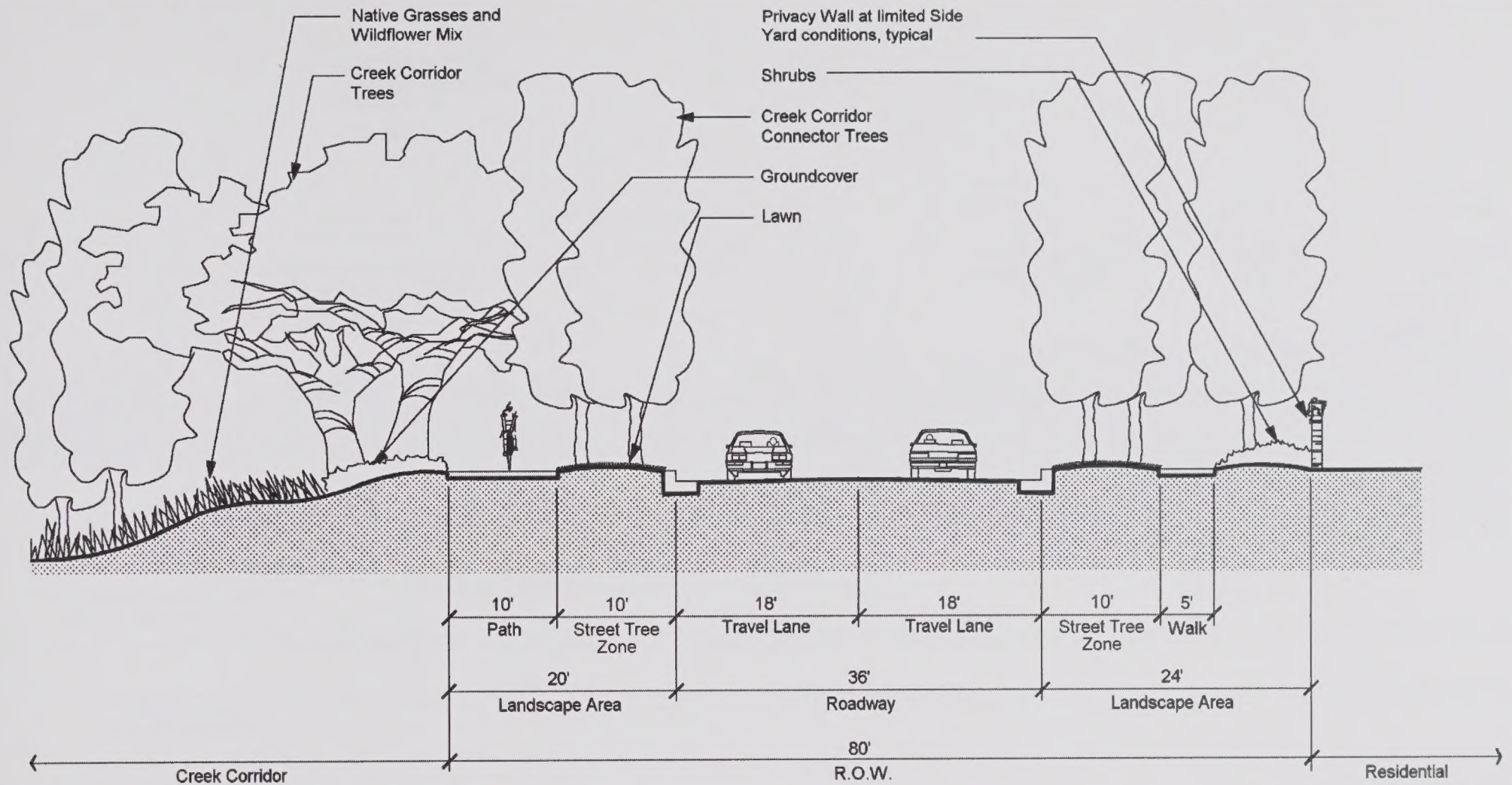
STREETSCAPE REQUIREMENTS:

- HILLSIDE TREES BETWEEN ROADWAY AND UPHILL RESIDENTIAL CONDITION (1 TREE /500 SQUARE FEET).
- LARGE DECIDUOUS TREES EXTEND FROM RIPARIAN CORRIDOR, ADJACENT LANDSCAPE AREA AND MEDIAN (1 TREE /1,000 SQUARE FEET)
- SHALLOW SWALE BOTH SIDES WHERE GRADES PERMIT, PLANTED IN

GRASSES AND WILDFLOWERS.

- WIDER MULTIUSE PATH ALONG RIPARIAN CORRIDOR.
- RESIDENTIAL AT UPHILL CONDITION REQUIRES FRONTAGE /LOOP ROAD WITH HOUSES FACING ARTERIAL.
- SEE POLICY 7.10.1 FOR EDGE TREATMENTS.

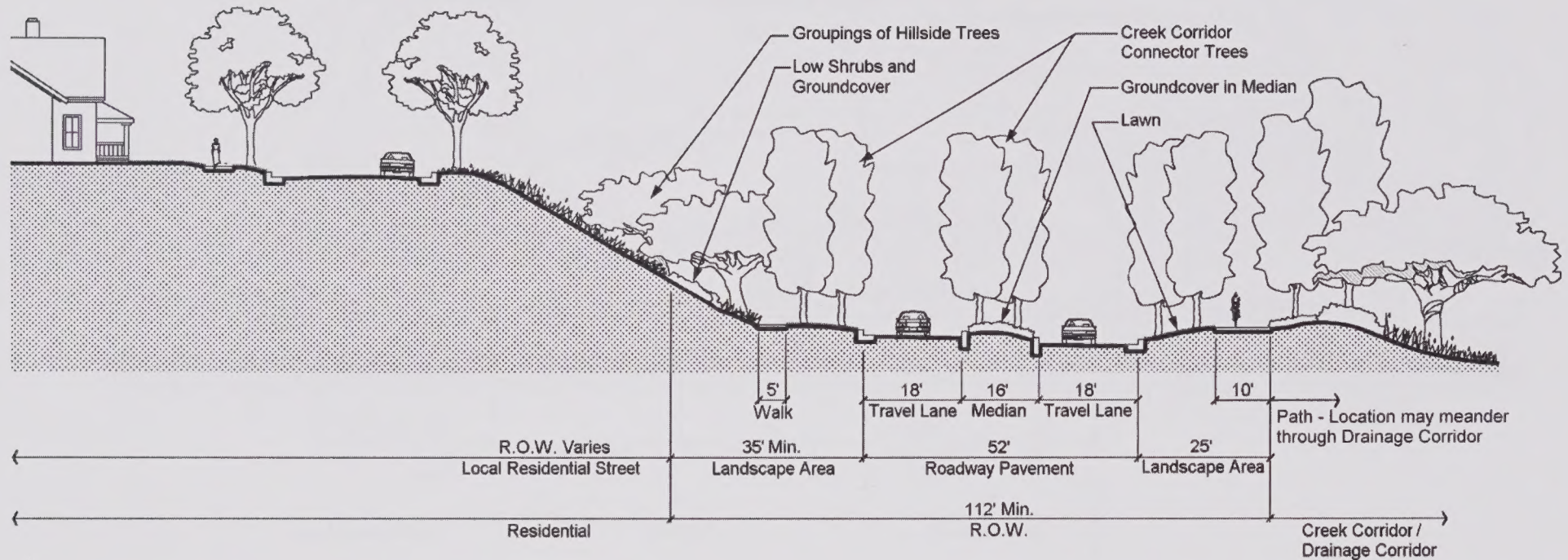
FIGURE 7.41: SECTION L – MURRAY RANCH ROAD



STREETSCAPE REQUIREMENTS:

- TWO LANE UNDIVIDED CONDITION FOR LIMITED AREA BETWEEN RM RESIDENTIAL AND ARROYO LAS POSITAS CORRIDOR.
- WIDER MULTIUSE PATH ALONG RIPARIAN CORRIDOR; SIDEWALK ON RESIDENTIAL SIDE.
- LARGE DECIDUOUS TREES EXTEND FROM RIPARIAN CORRIDOR INTO LANDSCAPE AREA 1 TREE /500 SQUARE FEET).
- PRIVACY WALL AT SIDE – YARD CONDITION; PLANTED WITH SHRUBS AND VINES.
- SEE POLICY 7.10.1 FOR EDGE TREATMENTS.

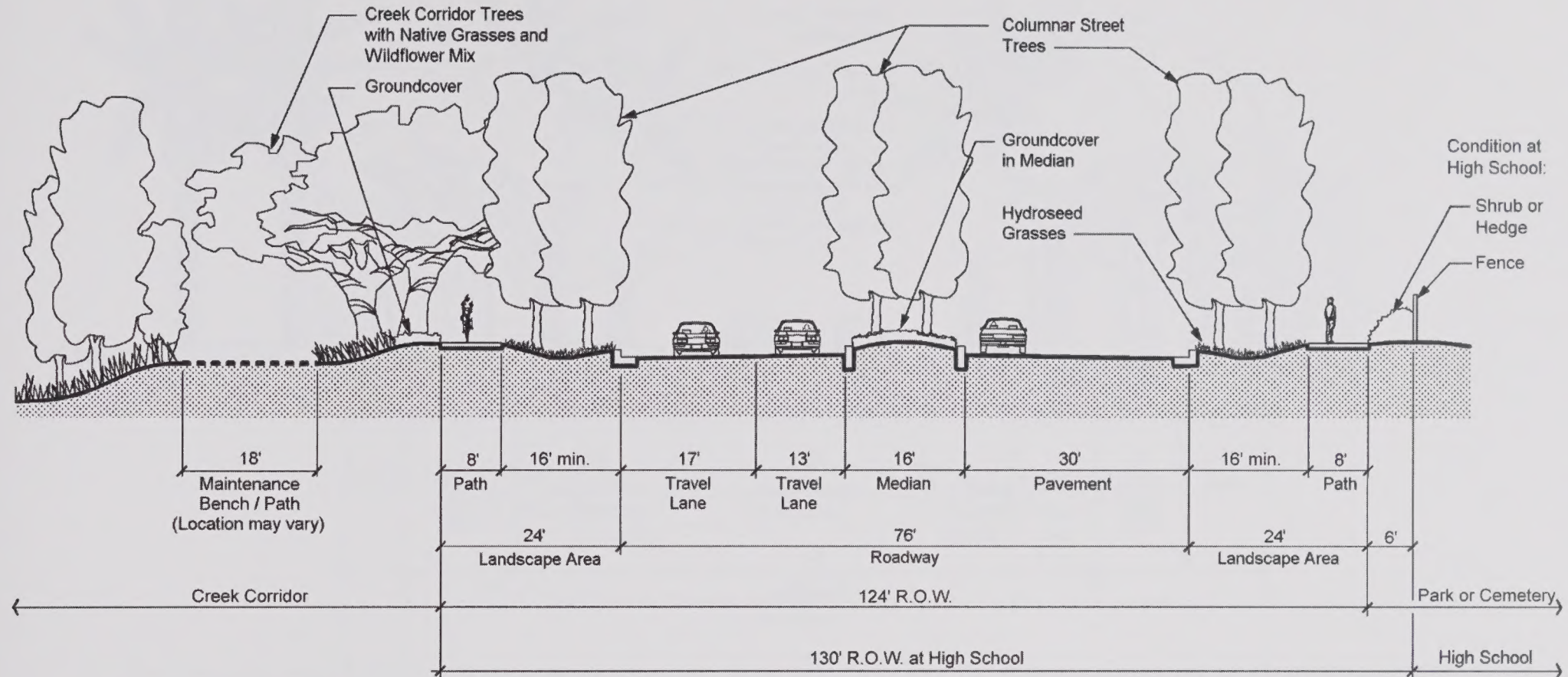
FIGURE 7.42: SECTION M – LAS COLINAS ROAD AT CREEK/RESIDENTIAL



STREETSCAPE REQUIREMENTS:

- TWO LANE DIVIDED CONDITION FOR AREA BETWEEN WATERMAN AND HARTMAN ROAD, WHERE WETLANDS/DRAINAGE CORRIDOR PERMIT.
- WIDER MULTIUSE PATH ALONG RIPARIAN CORRIDOR; SIDEWALK ON RESIDENTIAL SIDE. PATH MAY MEANDER INTO DRAINAGE CORRIDOR
- LARGE CREEK CONNECTOR TREES EXTEND FROM CORRIDOR INTO LANDSCAPE AREA (1 TREE PER 1,000 SQUARE FEET).
- PLANTING OF UPHILL CONDITION TRANSITIONS TO HILLSIDE TREES (1 TREE / 500 SQUARE FEET).
- RESIDENTIAL AT UPHILL CONDITION REQUIRES FRONTAGE ROAD WITH HOUSES FACING ARTERIAL.
- MEDIAN: 10' AREAS WITHOUT TURN LANES; TRANSITION TO 16' AT INTERSECTIONS.
- SEE POLICY 7.10.1 FOR EDGE TREATMENTS.

FIGURE 7.43: SECTION N – LAS COLINAS ROAD AT CREEK /ENVIRONMENTAL PARK



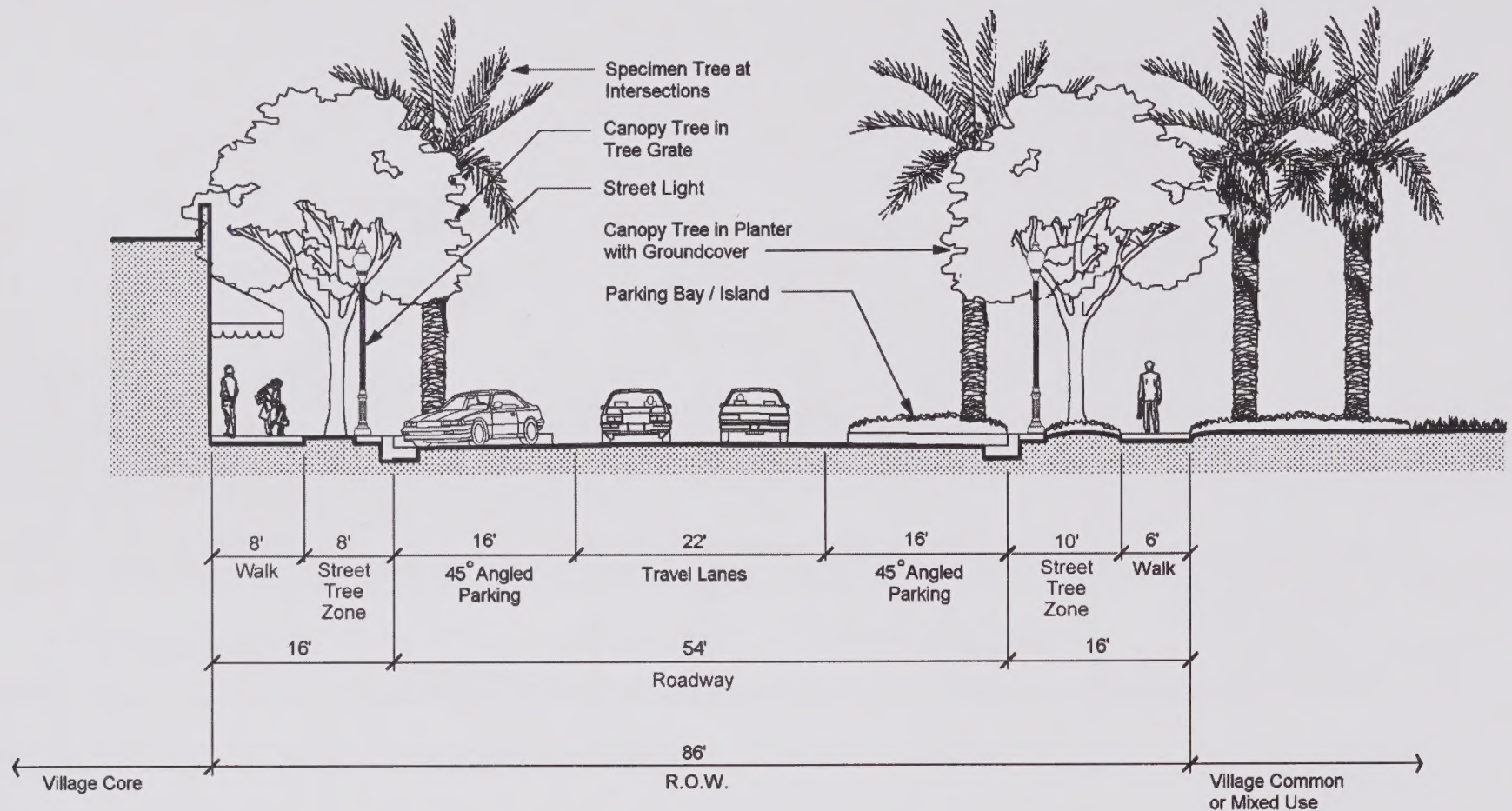
STREETSCAPE REQUIREMENTS:

- FOUR LANE DIVIDED CONDITION FROM HARTMAN ROAD, NORTH PAST HIGH SCHOOL
- MULTIUSE PATHS ALONG BOTH SIDES. PATH MAY MEANDER INTO DRAINAGE CORRIDOR/MAINTENANCE BENCH.
- COLUMNAR/RIPARIAN STREET TREES IN LANDSCAPE AREA AND MEDIAN. REGULAR OR INFORMAL SPACING (20 -25 FEET O.C.)
- FENCE AT HIGH SCHOOL OR PARK, IF REQUIRED, PLANTED WITH SHRUB/

HEDGE AND VINES. NO FENCE PREFERRED.

- GROUNDCOVER IN MEDIAN; SHALLOW SWALES PLANTED WITH GRASSES/ WILDFLOWERS. NATIVE GROUNDCOVERS TRANSITION TO CREEK CORRIDOR.
- SEE POLICY 7.10.1 FOR EDGE TREATMENTS.

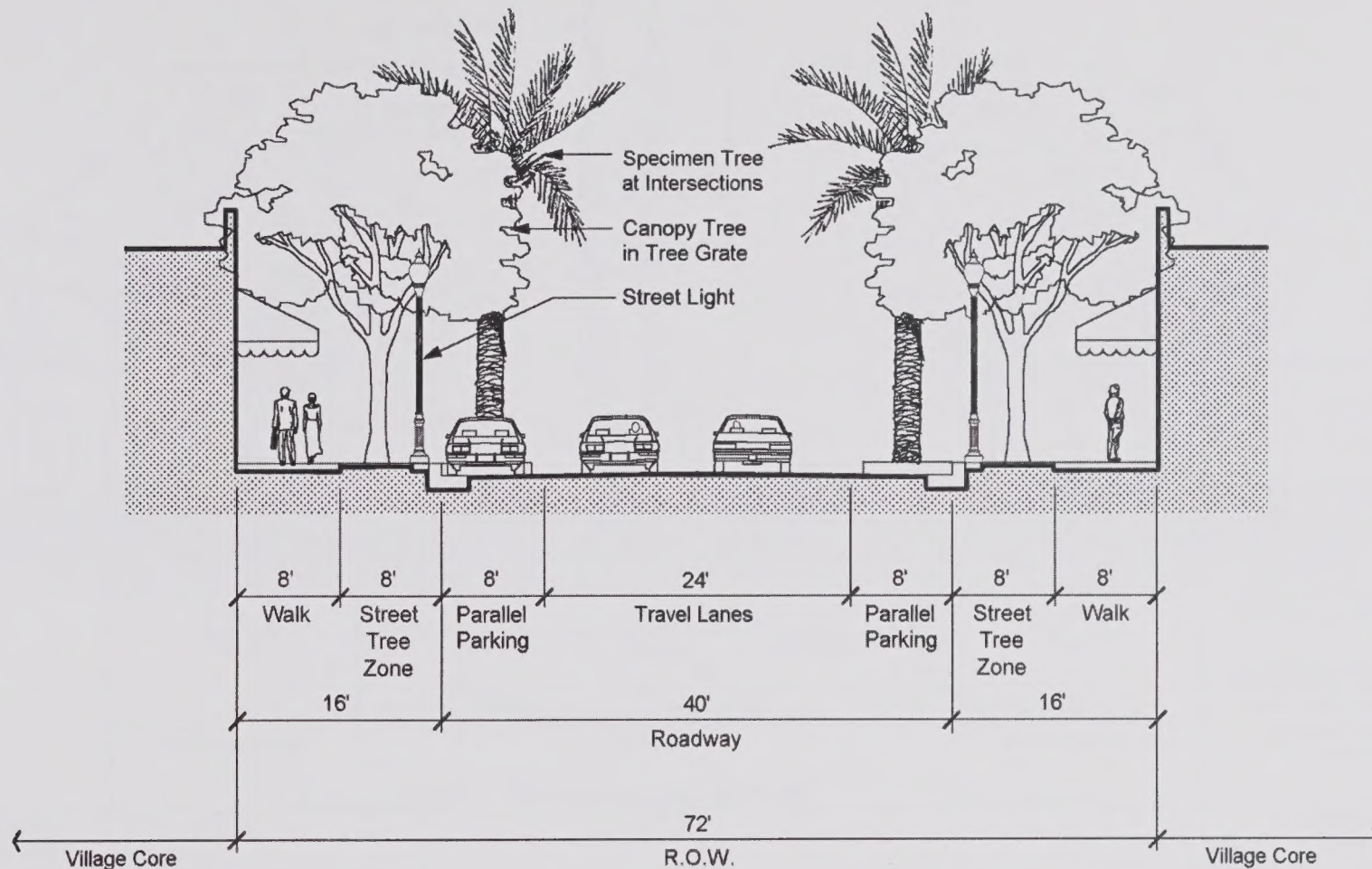
FIGURE 7.44: SECTION O – LAS COLINAS ROAD FROM HARTMAN ROAD TO RAYMOND ROAD



STREETSCAPE REQUIREMENTS:

- SPECIMEN TREE AT INTERSECTION CORNERS (1 TREE PER CORNER).
- STREET TREES PLANTED IN TREE WELLS WITH GRATES (25-30 FEET O.C.)

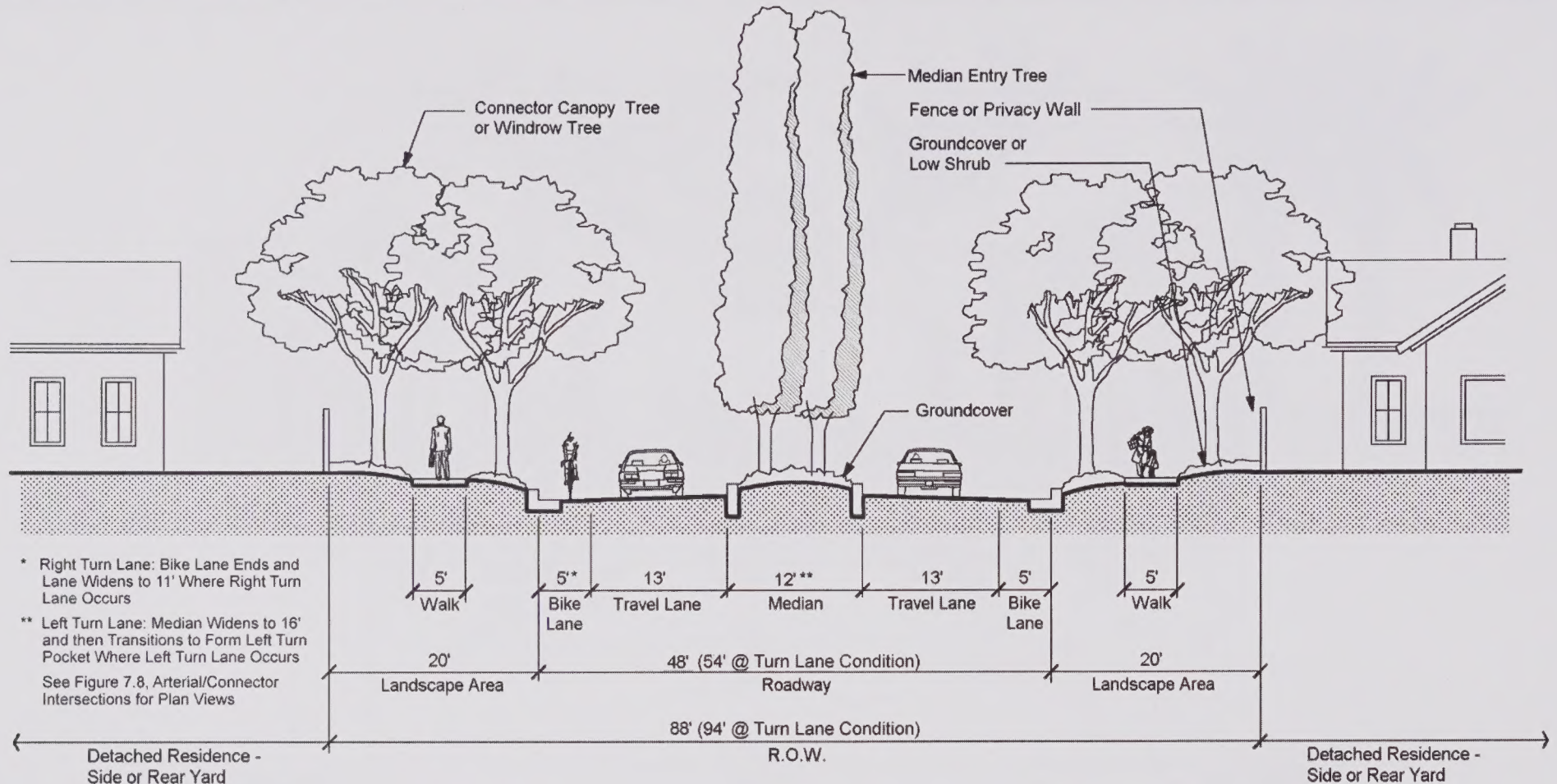
FIGURE 7.45: SECTION P – VILLAGE CORE CONNECTOR (MARKET STREET, VILLAGE COMMONS)



STREETSCAPE REQUIREMENTS:

- SPECIMEN TREE AT INTERSECTION CORNERS (1 TREE PER CORNER).
- STREET TREES PLANTED IN TREE WELLS WITH GRATES OR IN PLANTERS (25-30 FEET O.C.)

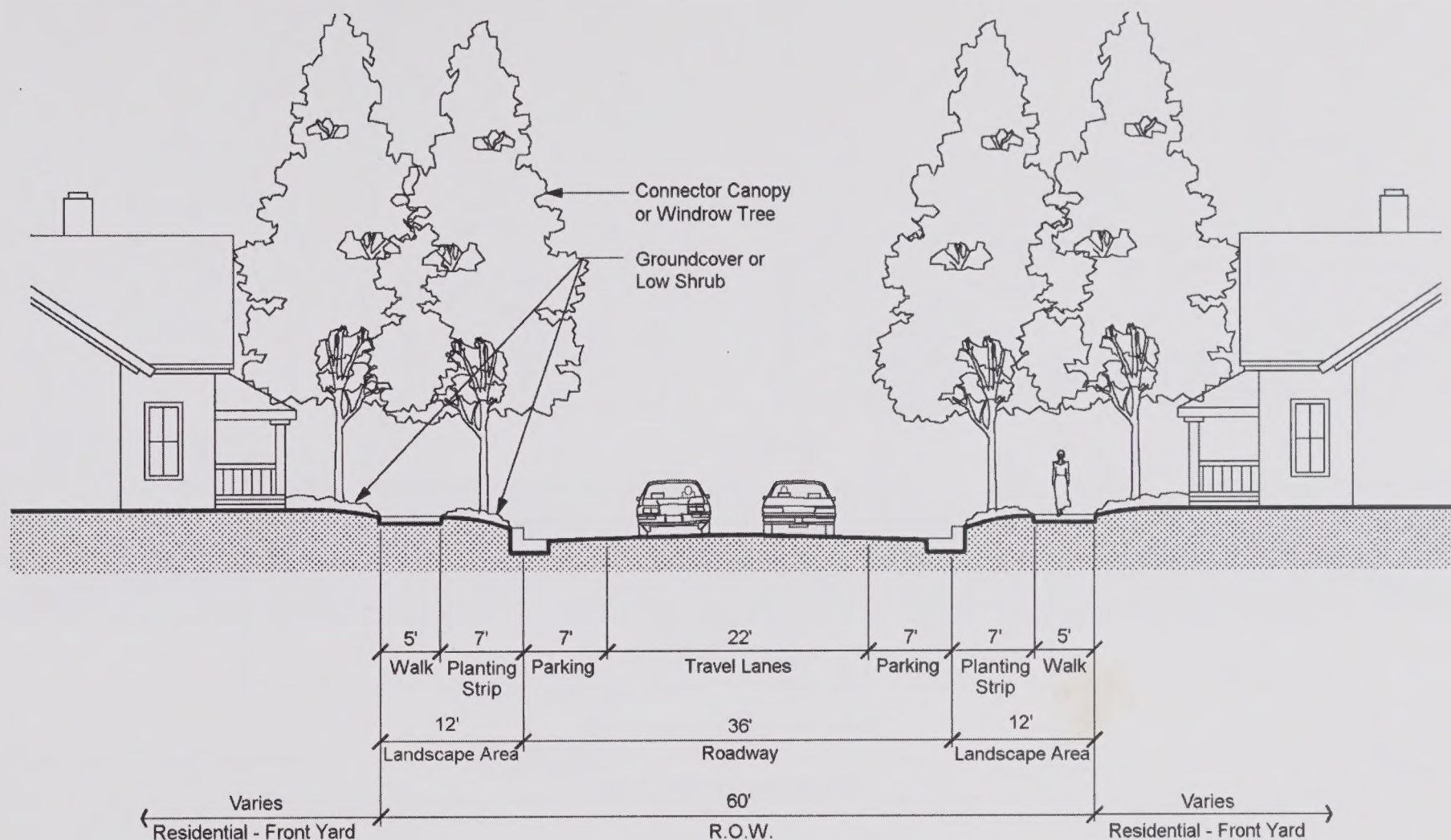
FIGURE 7.46: SECTION Q – VILLAGE CORE CONNECTOR STREET (PARALLEL PARKING)



STREETSCAPE REQUIREMENTS:

- SIDEWALK BOTH SIDES.
- DOUBLE ROW OF CANOPY OR WINDROW TREES FLANKING WALKS, PLANTED 25 – 30 FEET ON CENTER. SECOND ROW TO BE LOCATED IN SIDE/FRONT YARD, AS APPLICABLE.
- DOUBLE ROW MEDIAN ENTRY TREE AND GROUNDCOVER ENTIRE LENGTH OF MEDIAN (TREE SPACING 10 -15 FEET O.C.).
- MEDIAN EXTENDS FROM MEDIAN TO FIRST LOCAL STREET INTERSECTION, OR FIRST FRONTING LOTS.
- R/W LOCATED AT BACK OF WALK FOR FRONT YARD CONDITIONS. R/W LOCATED AT FENCE/WALL FOR REAR YARD CONDITION.
- PRIVACY WALL/FENCE ALLOWED ONLY FOR REAR YARD CONDITIONS AND LIMITED SIDE YARD AREAS. WALL MAY EXTEND TO FIRST INTERSECTION OR 300 FEET, WHICHEVER IS LESS. ALL WALLS PLANTED WITH VINES.

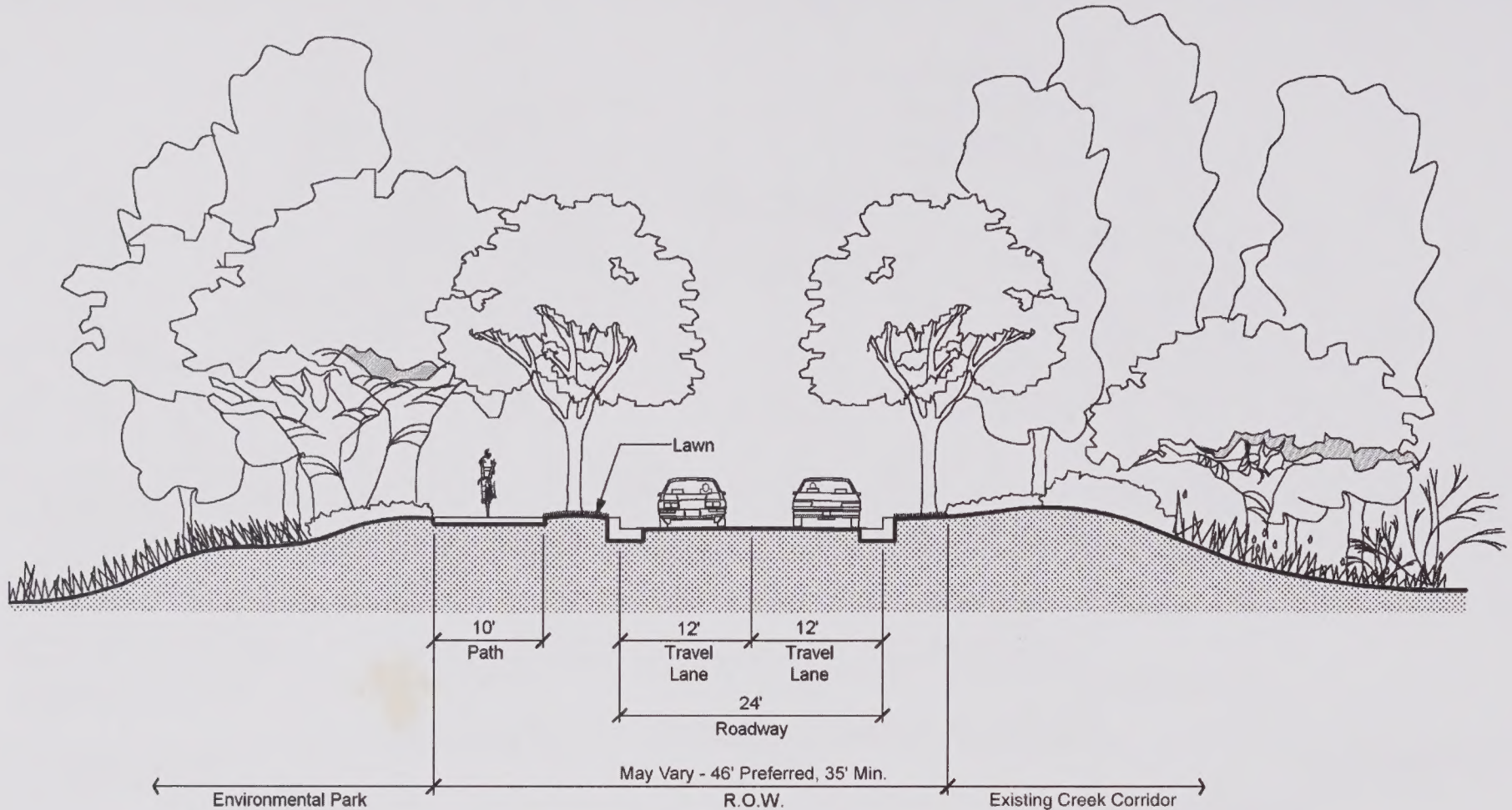
FIGURE 7.47: SECTION R – CONNECTOR AT NEIGHBORHOOD ENTRY (>2000 ADT)



STREETSCAPE REQUIREMENTS:

- SIDEWALK BOTH SIDES.
- DOUBLE ROW OF PRIMARY OR SECONDARY WINDROW TREES, FLANKING WALKS. SECOND ROW TO BE LOCATED IN SIDE OR FRONT YARD, AS APPLICABLE.

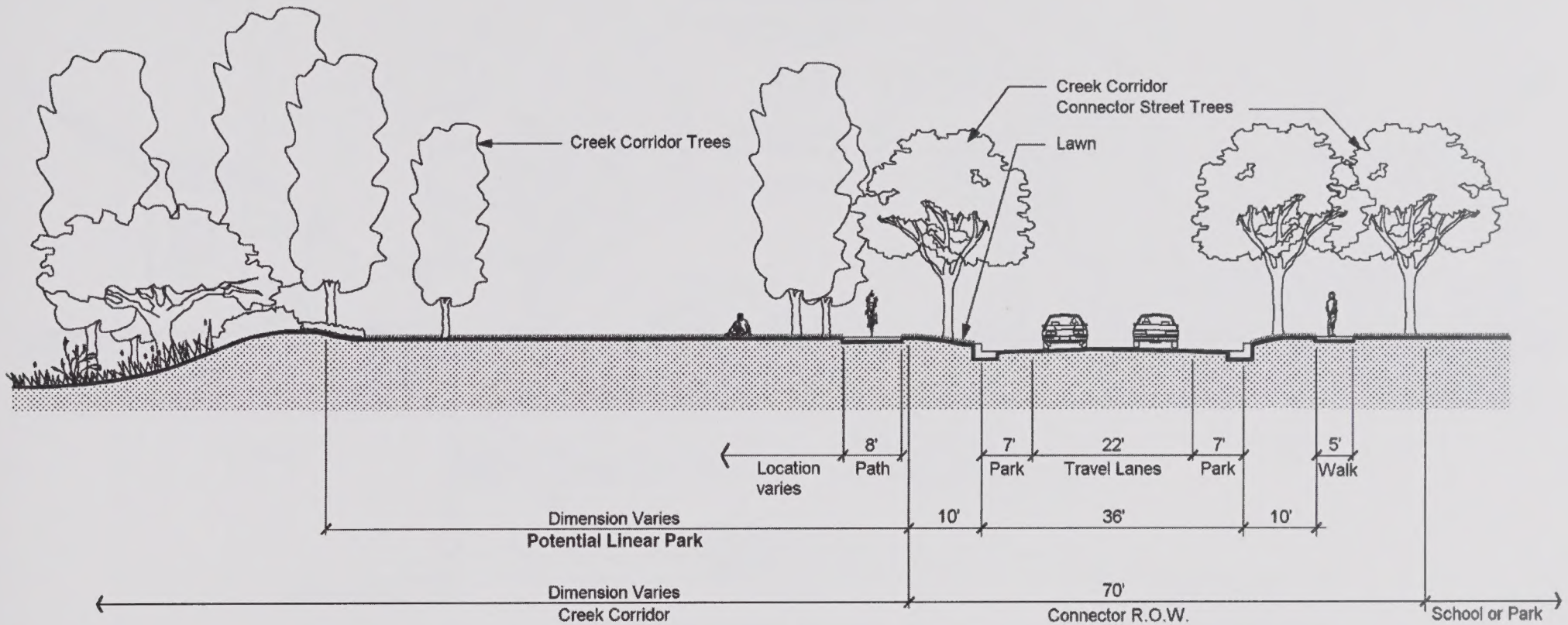
FIGURE 7.48: SECTION S – CONNECTOR (1000 – 2000 ADT)



STREETSCAPE REQUIREMENTS:

- SINGLE ROW OF CREEK CORRIDOR TREES SPACED 25 – 30 FEET ON CENTER FLANKING ROADWAY.
- CREEK CORRIDOR TREES PLANTED ALONG CREEK OR ENVIRONMENTAL PARK EDGE AS SPACE PERMITS.
- MULTI – USE PATH ON ONE SIDE OF THE ROADWAY PROVIDING PEDESTRIAN/ BICYCLE CONNECTION TO SPRINGTOWN.

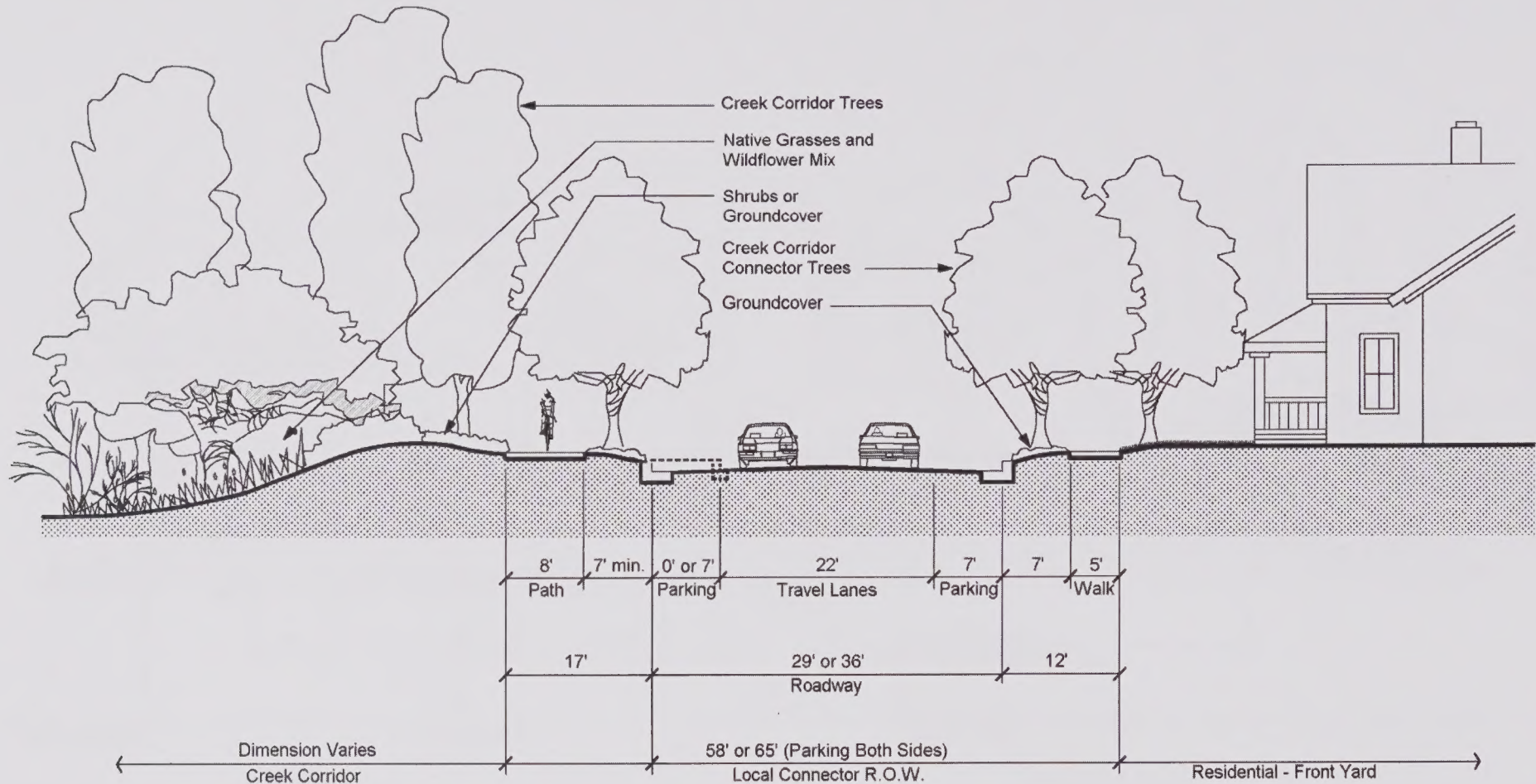
FIGURE 7.49: SECTION T – WATERMAN DRIVE



STREETSCAPE REQUIREMENTS:

- ON CREEK SIDE, A DOUBLE ROW OF CREEK CORRIDOR TREES PLANTED OUTSIDE THE PATH.
- ON NON – CREEK SIDE, 24 – FOOT LANDSCAPE AREA WHERE ROAD ABUTS AN ELEMENTARY SCHOOL; OTHERWISE 12 – FOOT WIDE LANDSCAPE AREA PER LOCAL ROADWAY SECTIONS.
- REGULAR SPACED STREET TREES IN PARKWAY PLANTER STRIP SPACED 25 – 30 FEET ON CENTER. SINGLE ROW ON CREEK SIDE, DOUBLE ROW ON SCHOOL/ PARK/RESIDENTIAL SIDE.

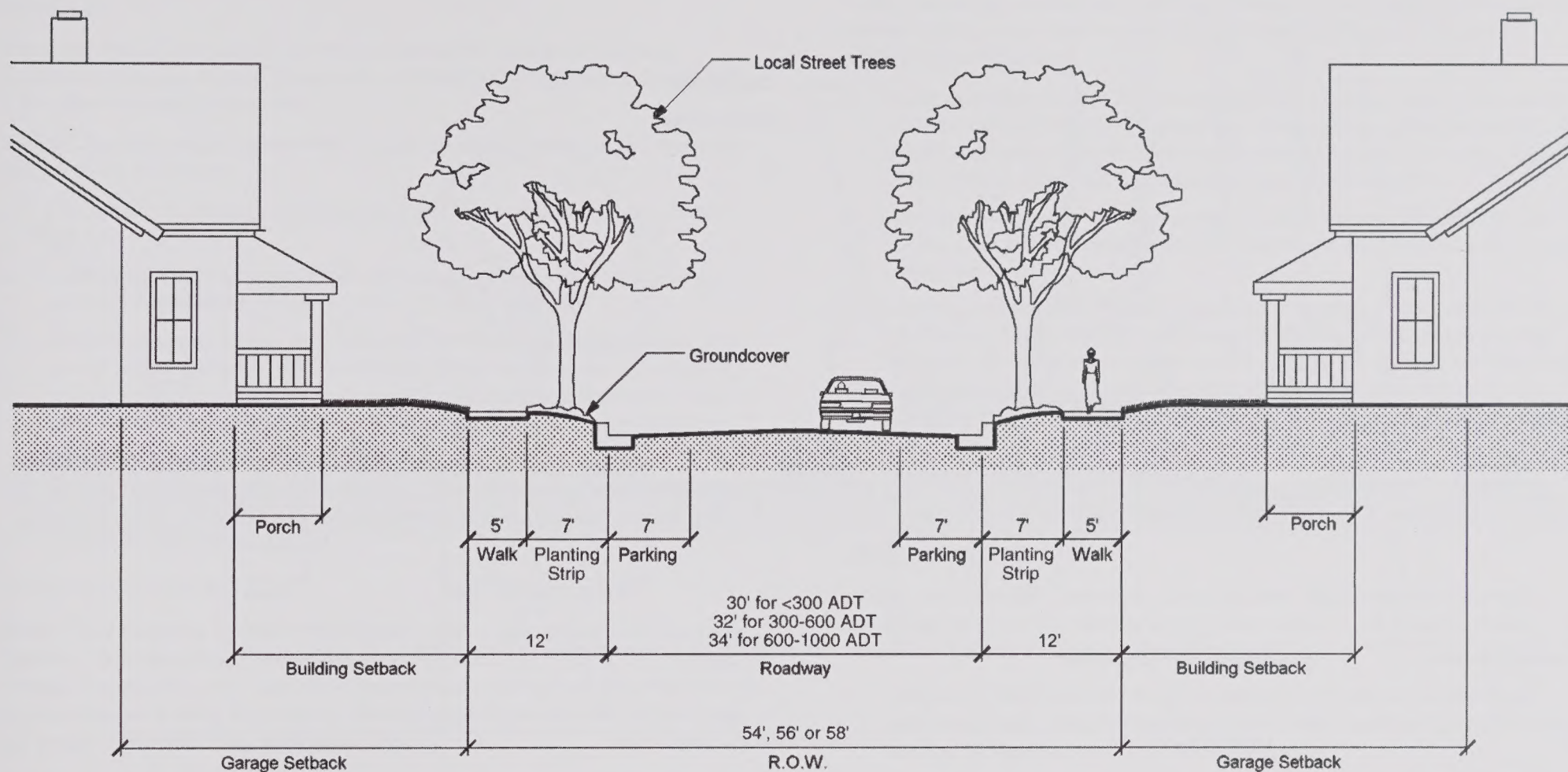
FIGURE 7.50: SECTION U – CONNECTOR AT CAYETANO CREEK AND SCHOOL/PARK



STREETSCAPE REQUIREMENTS:

- ON CREEK SIDE, CREEK CORRIDOR TREES PLANTED OUTSIDE THE PATH (1 TREE / 500 SQUARE FEET).
- REGULAR SPACED STREET TREES PLANTED IN PARKWAY STRIP, BOTH SIDES; DOUBLE ROW ON RESIDENTIAL SIDE. TREES SPACED 25 TO 30 FEET ON CENTER ALONG FRONT AND SIDE YARD FRONTAGES.
- MULTI USE PATH ON CREEK SIDE, MAY MEANDER INTO CREEK CORRIDOR.
- SIDEWALK ALONG RESIDENTIAL.
- PARKING MAY BE CONTINUOUS OR IN BAYS ALONG CREEK CORRIDOR.

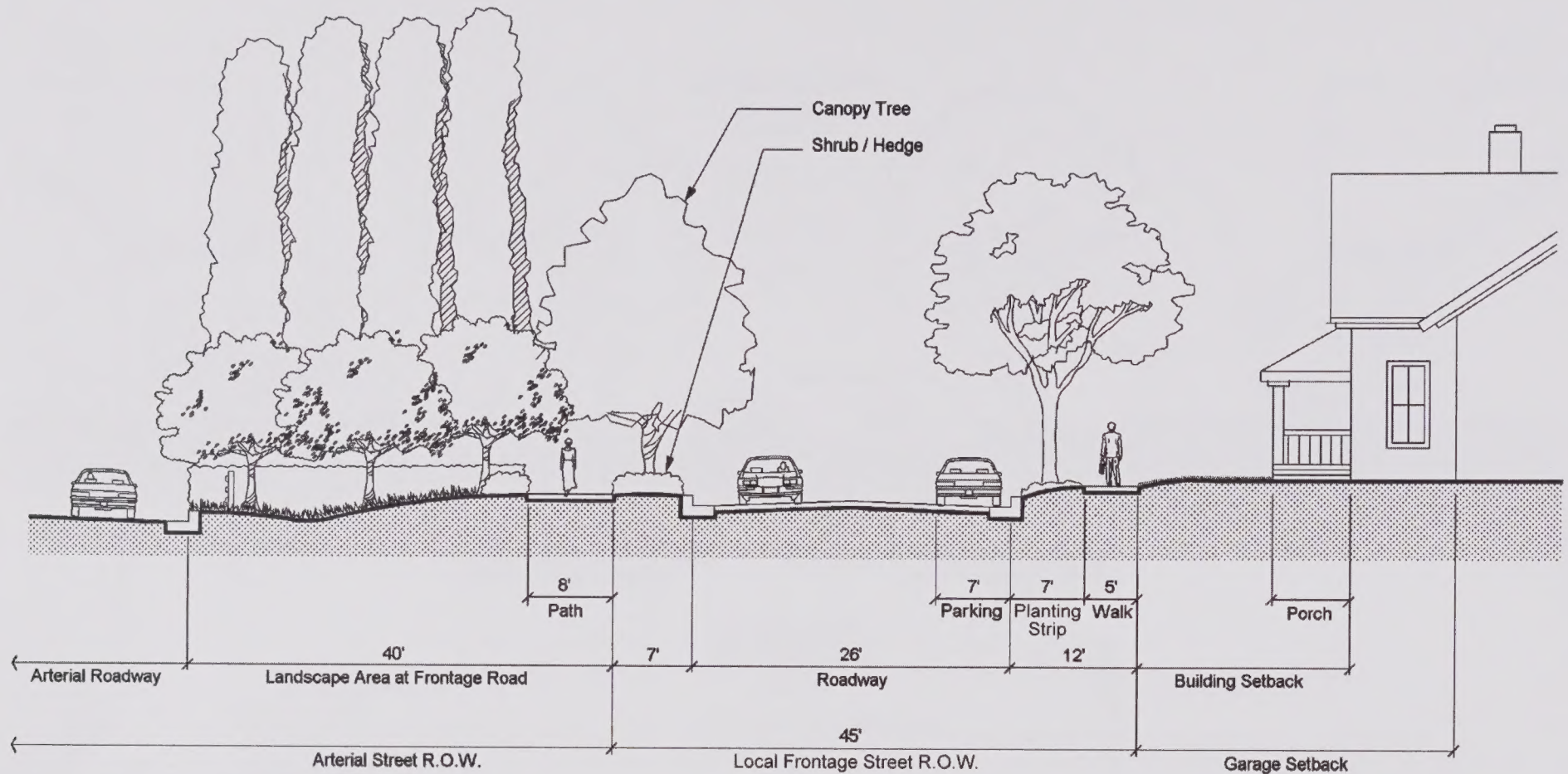
FIGURE 7.51: SECTION V – CONNECTOR AT EAST CREEK



STREETSCAPE REQUIREMENTS:

- REGULAR PLANTED STREET TREES 25 TO 30 FEET ON CENTER ALONG FRONT AND SIDE YARD FRONTAGES.

FIGURE 7.52: SECTION W – LOCAL STREET (< 1000 ADT)



STREETSCAPE REQUIREMENTS:

- ARTERIAL STREETSCAPE PLANTING PATTERN EXTENDS TO FRONTAGE ROAD.
- MULTI-USE PATH SERVES AS SIDEWALK FOR BOTH STREETS.
- SIDEWALK LOCATED ADJACENT TO RESIDENTIAL.
- REGULAR SPACED STREET TREES PLANTED IN PARKWAY STRIP (25-30 FEET O.C.) ALONG FRONT AND SIDE YARDS.

FIGURE 7.53: SECTION X – LOCAL FRONTAGE STREET (< 1000 ADT)

7.9 GATEWAYS AND ENTRIES

GENERAL

Gateways and entries include the North Livermore Community Gateway, Community Entries, Arterial Crossroads, and Neighborhood Entries (see Figure 7.54: Gateways and Entries Plan).

Policy 7.9.1 General Requirements. Improvements at gateways and entries are subject to the following:

- a) Community Gateways and Entries are located at important points of entry into North Livermore.
- b) Community Gateways and Entries shall be designed to establish a sense of arrival and reinforce a distinct character for the community.
- c) All Gateways and Entries shall incorporate a consistent design approach for special image walls and monuments throughout the community. A hierarchy of scale shall be established, appropriate for the scale and importance of each entry—with larger, more massive elements used at Community Gateways and smaller, less obtrusive treatments occurring at Neighborhood Entries.
- d) All entry improvements and landscaping shall maintain safe sight distances. Landscaping is allowed near intersections as long as critical views of traffic and pedestrians are maintained.

COMMUNITY GATEWAYS

Policy 7.9.2 Gateway Location and Requirements. The primary Community Gateway shall occur along North Livermore Avenue from I-580 to Calle Las Positas. The gateway zone includes the interchange grading and landscape and an expanded setback along the roadway extending approximately 400 feet north of the intersection with Calle Las Positas (Figure 7.55):

- a) The landscape treatment of the gateway is shall establish a visual transition from the freeway into the community by establishing a natural appearing, hillside oak woodland.
- b) Grading at the interchange shall establish natural appearing landforms that block the foreground views of development and provide additional area for hillside tree planting.

COMMUNITY ENTRIES

Policy 7.9.3 Entry Locations and Requirements. Community Entries shall be located where arterial streets enter the Plan Area (see Figure 7.54), and are subject to the following:

- a) Landscape treatments of Community Entries at Murray Ranch Road and on the west side at Calle Las Positas shall use a planting approach similar to the North Livermore Gateway. These entries shall be planted to create a natural appearing oak woodland on existing or manufactured slopes.
- b) Landscape treatments of Community Entries at the east end of Calle Las Positas shall utilize a plant palette that reinforces the adjacent riparian creek environment.
- c) Landscape treatments of the Community Entry at the north end of North Livermore Avenue shall visually extend the landscape pattern of the May School Road Greenbelt to create a sense of entry and transition between the urban and rural areas. Landscape treatments shall include “orchards” of flowering or canopy trees, windrows, vineyards or similar landscape pattern conveying an agrarian or agricultural expression.
- d) Each entry shall include a minimum of two community entry monuments located near the corners of the roadways.

ARTERIAL CROSSROADS

Policy 7.9.4 Arterial Crossroads Locations and Requirements. Arterial crossroads occur at other arterial intersections within North Livermore (see Figure 7.54), and are subject to the following:

- a) Landscape treatments for arterial crossroads shall express the landscape treatment of one of the intersecting streets, with the following priorities in terms of design expression and landscape palette:
 - i. At North Livermore Avenue and Jensen Road, use the Jensen Road palette
 - ii. At Jensen Road and Las Colinas Road, use Jensen Road palette
 - iii. At Murray Ranch Road and Hartman Road, use Hartman Road palette
 - iv. At Jensen Road and Hartman Road, use Hartman Road palette
 - v. At Hartman Road and Las Colinas Road, use Hartman Road palette

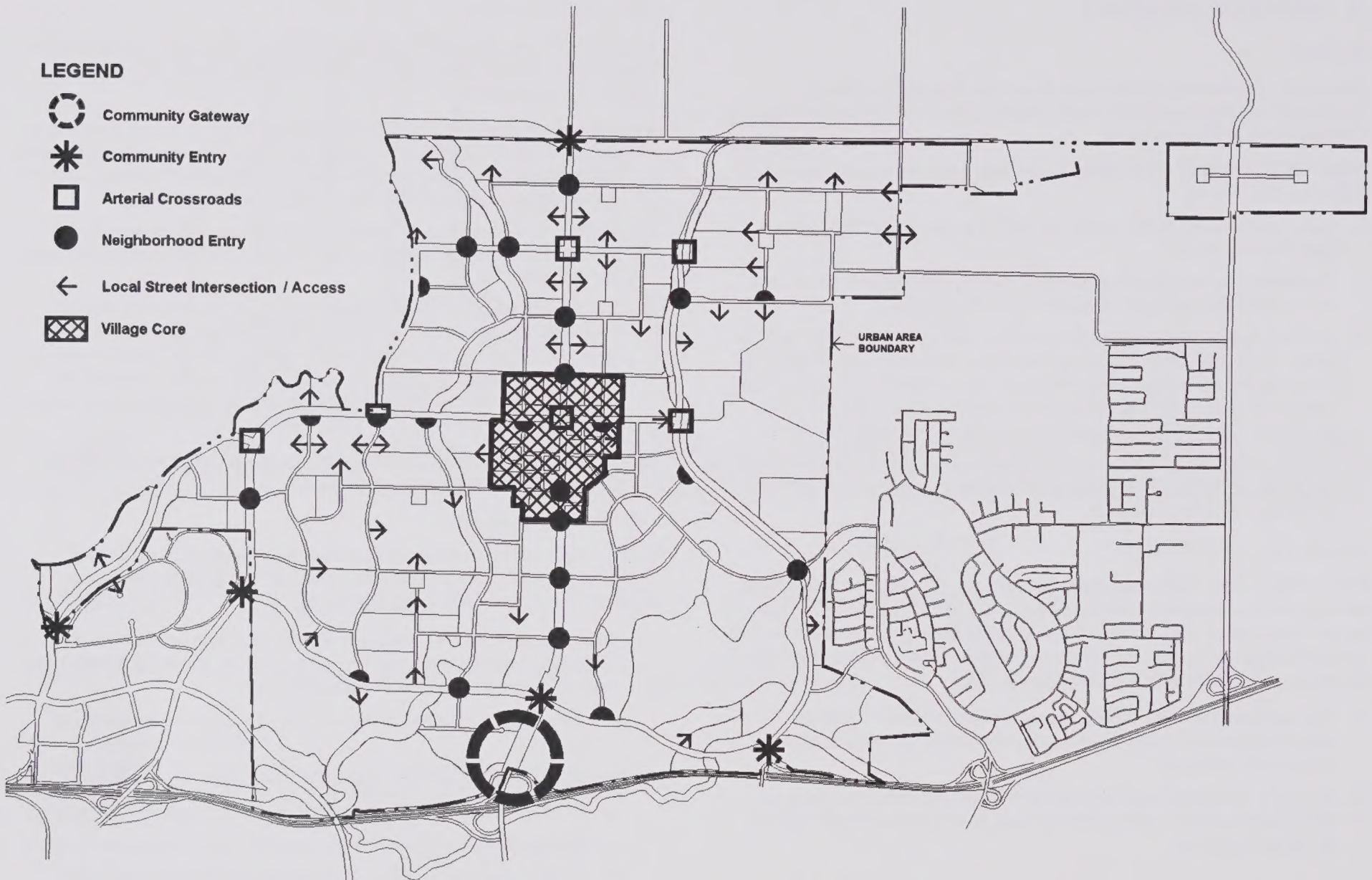


FIGURE 7.54: GATEWAYS AND ENTRIES PLAN

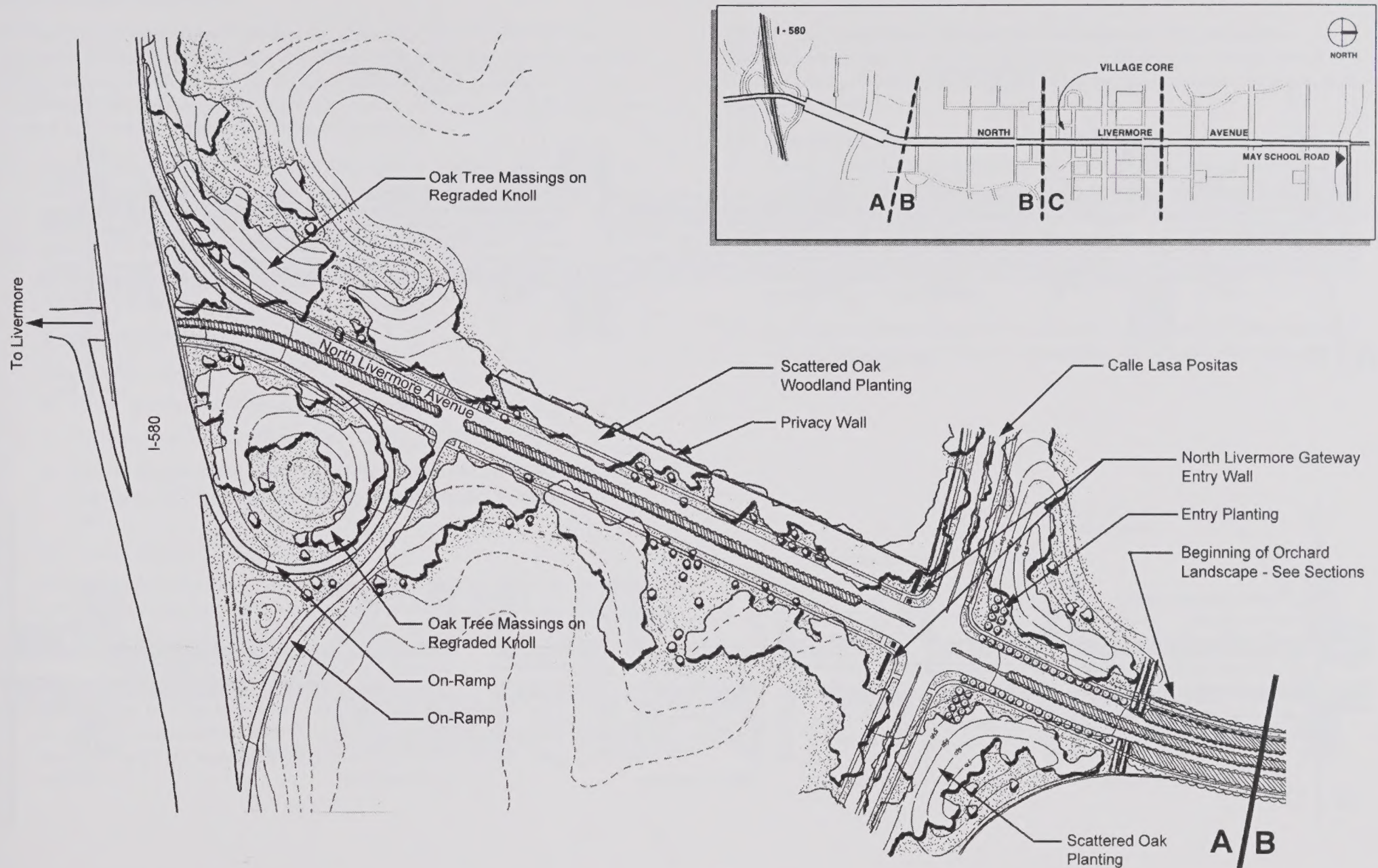


FIGURE 7.55: PRIMARY COMMUNITY GATEWAY AT I-580

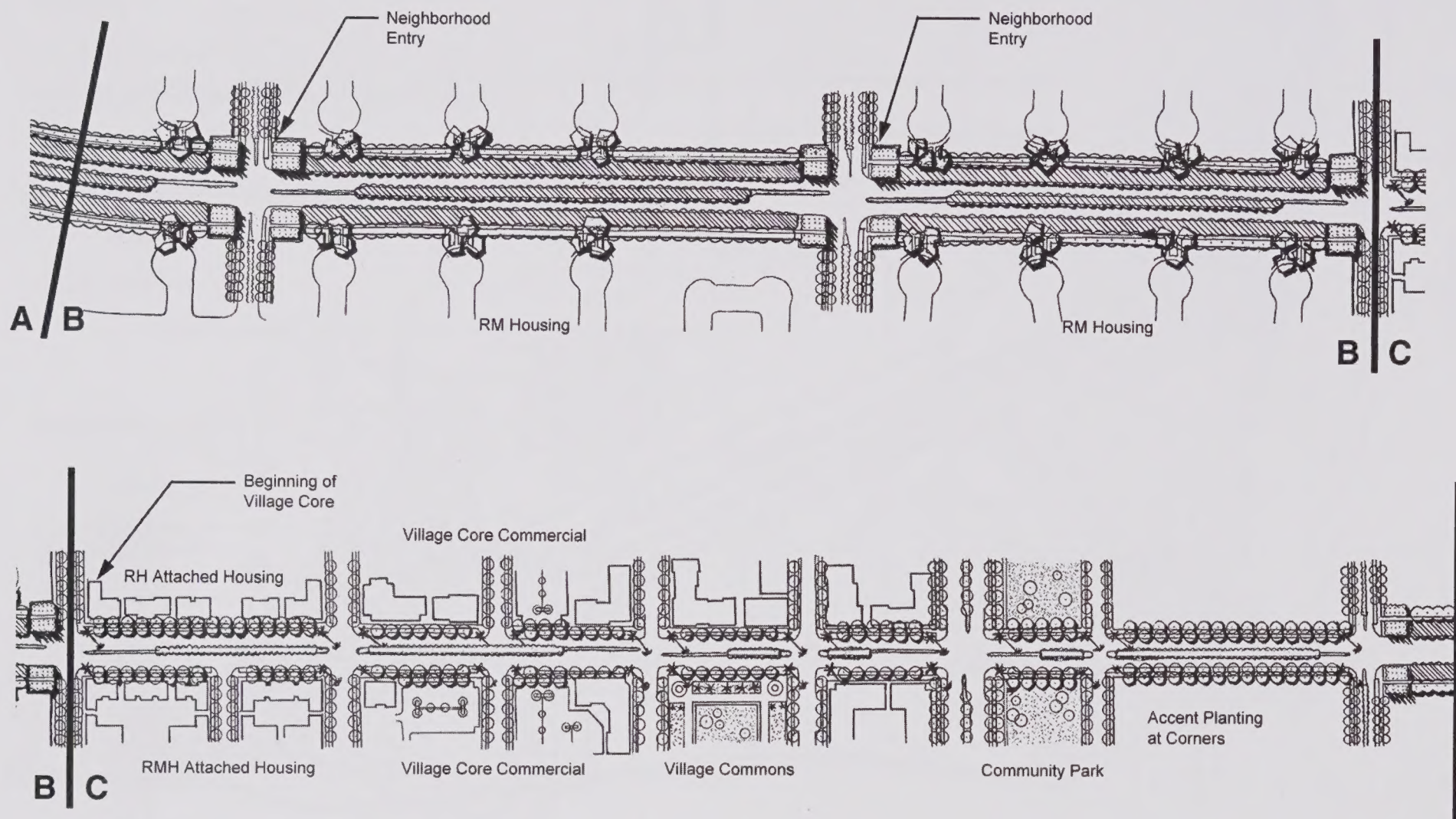


FIGURE 7.56: NORTH LIVERMORE AVENUE LANDSCAPE CONCEPT

NEIGHBORHOOD ENTRIES

Policy 7.9.5 Neighborhood Entries. Neighborhood Entry treatments shall generally be consistent with Figures 7.57 and 7.58, and as described below. The Neighborhood Entry shown is for a typical entry on North Livermore Avenue. Landscape treatments may vary slightly in order to respond to specific conditions at each intersection, but shall otherwise be consistent:

- a) Grading and planting of these areas shall create a spatial transition from the relatively automobile-dominated arterial streets to the smaller-scale connector and local streets.
- b) Landscape treatments shall include:
 - i. Grove of trees planted in a regular grid pattern. Planted in individual planters within decomposed granite paving.
 - ii. Screening hedges and vines on wall.
 - iii. Backdrop trees.
 - iv. Stone identity wall or monument in median and flanking parkways.
 - v. Entry median trees leading to first neighborhood intersection
 - vi. Enhanced pedestrian pavements (pavers, patterned concrete, exposed aggregate finished concrete, decomposed aggregate) in the sidewalk area.
 - vii. Accent lighting
- c) Neighborhood Entries shall utilize planted median strips within the connector street leading into the neighborhood to reduce the visual scale and emphasize the special nature of the street. Median strips shall extend to the first intersection, or 300 feet, whichever is smaller.
- d) Treatments of Neighborhood Entries for other arterial streets shall be addressed by the Streetscape and Entries Master Plan (see Policy 7.8.1). Development of these entries may utilize the typical treatments described above, or may vary in order to adapted to specific conditions along the other roadways.

LOCAL STREET INTERSECTIONS

Policy 7.9.6 Local Street Intersection Locations and Requirements.

Intersections of local streets shall occur along connector and arterial streets at locations that provide important points of access into residential neighborhoods (see Figure 7.54).

- a) Along arterial streets, local street intersections shall occur at intervals between Neighborhood Entries where an additional connection into the neighborhood is desired (or necessary to reduce traffic volumes on Neighborhood Entry Connector Streets).
- b) Local street intersections which provide the primary point of entry into a neighborhood shall include an adaptation of the typical Neighborhood Entry treatment, at a reduced scale.
- c) Local street intersections with connector streets and other local streets shall include an accent tree, consistent throughout the neighborhood, planted near each corner.

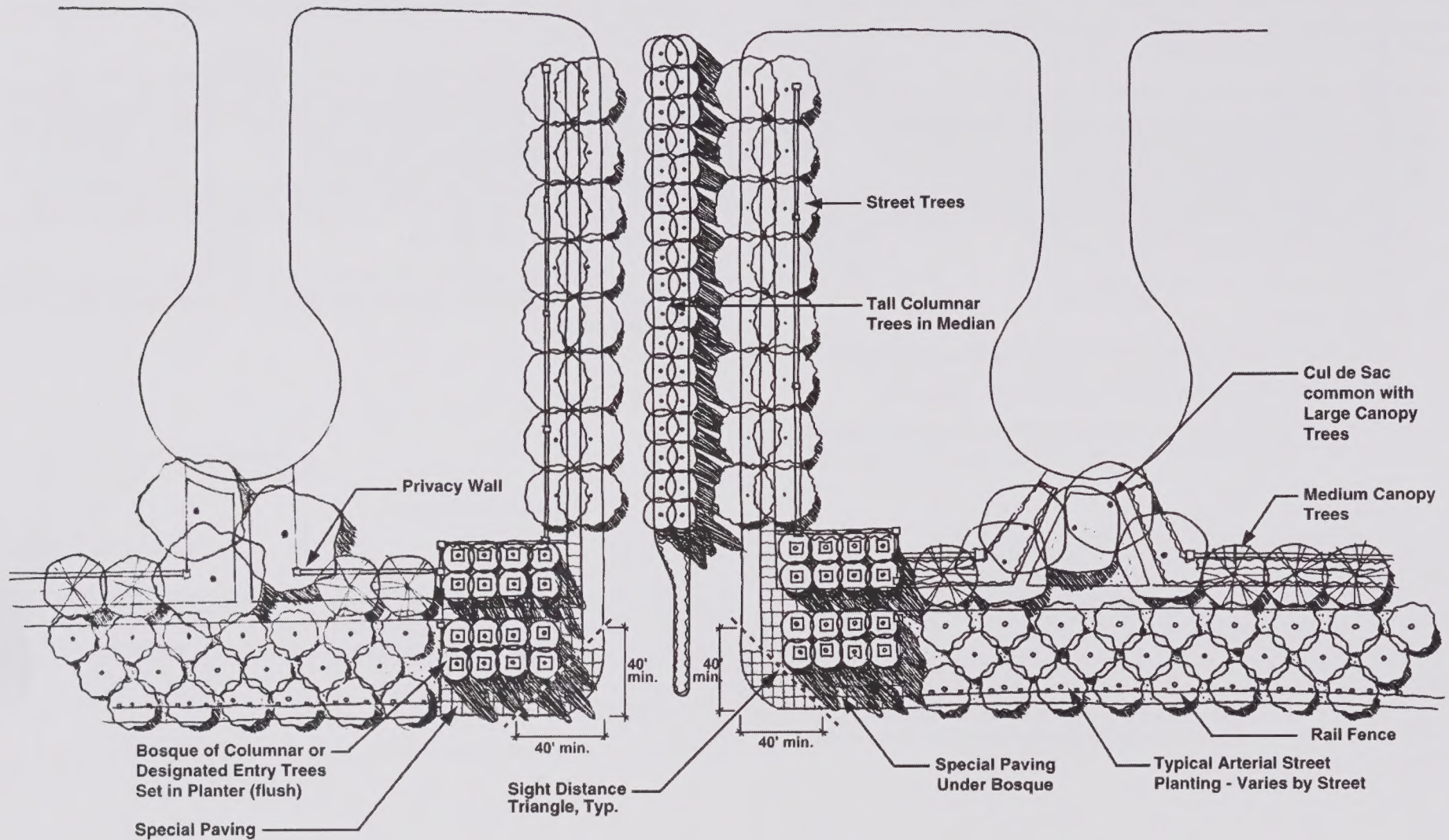


FIGURE 7.57: NEIGHBORHOOD ENTRY – PLAN

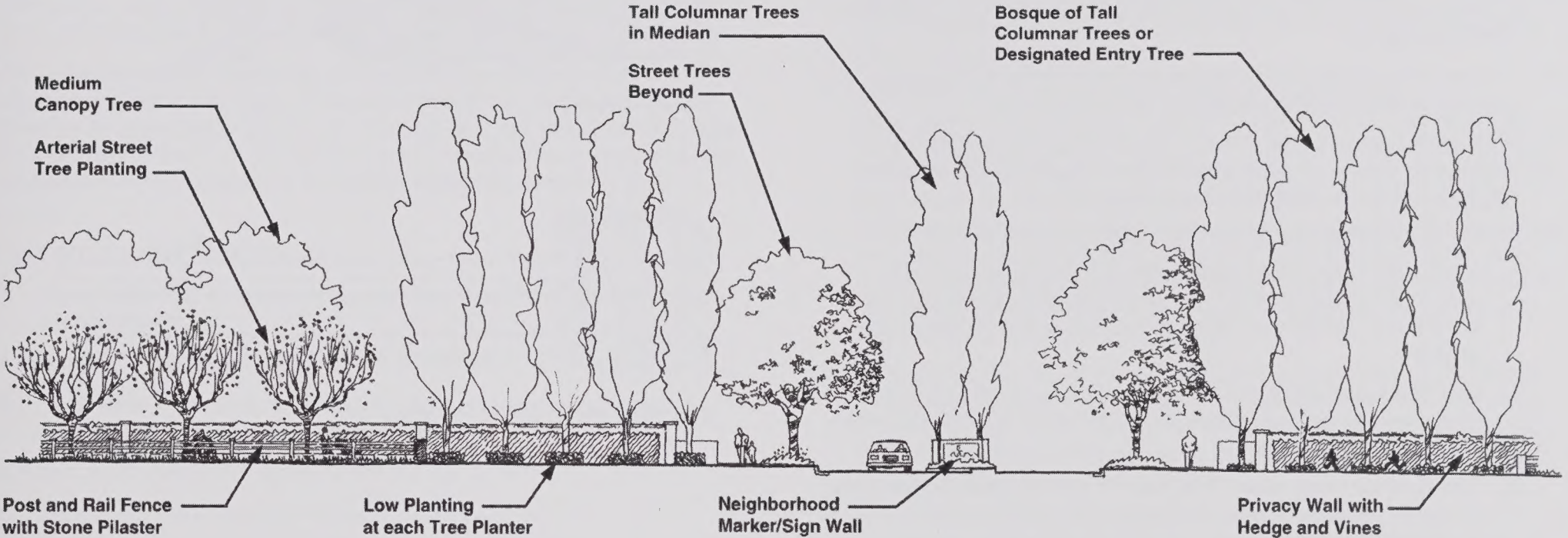
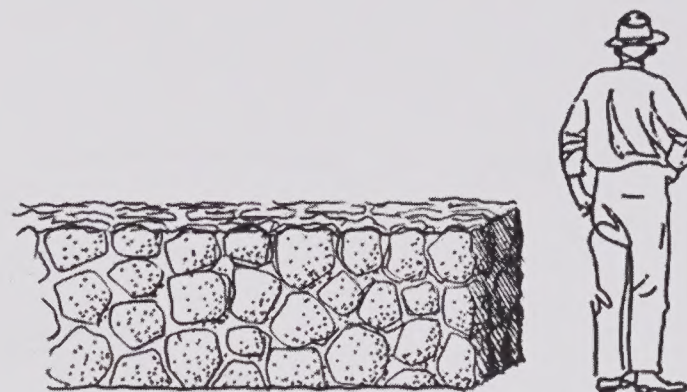


FIGURE 7.58: NEIGHBORHOOD ENTRY – ELEVATION

IMAGE WALLS, MONUMENTS AND FENCES

Policy 7.9.7 Image Walls, Monuments and Fence Requirements. Image walls and fences shall consist of a ‘family’ of elements, similar in style and materials, used in a consistent manner throughout North Livermore (see Figure 7.59), as follows:

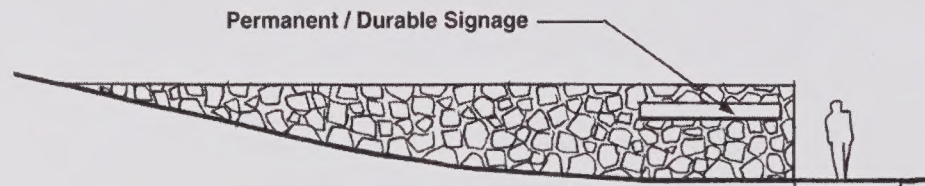
- a) Image walls shall be constructed of stone or stone-faced concrete structures.
- b) Image walls and related elements shall be located at high visibility locations including intersections, entries and between roadways and pedestrian paths. Image walls are intended to provide an image of permanence and quality, and to focus attention away from development areas, privacy walls or other less desirable elements.
- c) All community signage and permanent graphics shall be incorporated as an integral part of the walls or monuments (see Section 7.12).
- d) Other adaptations of the image walls using related forms or materials are encouraged elsewhere in the community, including bridge crossings, park furniture, sign bases or similar, common elements.
- e) At minimum, common image walls and monuments shall include:
 - i. Community Entry Monuments. Monuments, located at the North Livermore Community Entry and other Community Entries, shall be horizontal or vertical stone elements that may include lighting and graphics
 - ii. Low Stone Gateway Wall. A low, continuous stone wall flanking North Livermore Avenue from I-580 to Calle Las Positas, located between the curb and multi-use path.
 - iii. Low Gateway Entry ‘Blade’ Wall. A series of walls placed perpendicular to North Livermore Avenue, extending from the walkway and visually disappearing into the adjacent open space/grasslands.
 - iv. Wood Rail Fence and Fence End Monuments. Rail fencing and end monuments visually define the pedestrian corridor on both sides of North Livermore Avenue. Monuments occur at regular intervals and at street intersections, neighborhood entries and other pedestrian interconnections into the residential areas.
 - v. Neighborhood Identity Walls. Stone walls in the entry median and flanking Neighborhood Entries.



LOW STONE WALL



RAIL FENCE WITH STONE PILASTER



NORTH LIVERMORE GATEWAY ENTRY WALL WITH SIGNAGE

FIGURE 7.59: COMMUNITY WALLS AND FENCE PROTOTYPE

7.10 PRIVACY WALLS AND FENCES

Walls and fences are an important part of the built environment of North Livermore. They provide privacy, security, shape important public spaces and influence the character of the community. Except for North Livermore Avenue, where the use of privacy walls is an integral part of the landscape treatment, the intent is to limit the use of privacy wall. In order to minimize the negative visual impacts of continuous sound or privacy walls, a variety of treatments and variations in land use relationships shall be required, including setbacks, landscape treatments, use of a consistent wall design, spacing of required intersections and pedestrian connections, frontage or loop streets, open-ended cul-de-sacs and wall offsets with optional trellises and private gates.

The following sections describe the types of edge treatments that occur in community. As shown by Figure 7.60, each arterial street is divided into Zones based on the typical adjoining land use. For each Zone, a preferred edge treatment is identified (see Table 7.5). Except for North Livermore Avenue, alternative edge treatments are allowed subject to the specific conditions described in Policy 7.10.2.

HOW TO USE THIS SECTION

1. Go to Figure 7.60 to find the designated Edge Treatment Zone for a portion of arterial roadway.

Example: North Livermore Avenue north of the Village Core is Zone C.

2. Go to Table 7.5: Arterial Street Edge Treatments to identify the preferred edge treatment for the Edge Treatment Zone.

Example: Zone C preferred edge treatment is Frontage Street.

3. Go to Policy 7.10.1 for a description of edge treatments.

Example: Sub-policy d) describes Frontage Streets.

4. Go to Policy 7.10.2 for other allowed edge treatments.

Example: If the preferred edge treatment fails to provide adequate noise protection, one, or a combination of the other, allowed edge treatments may be used.

ARTERIAL STREET EDGE TREATMENTS

Policy 7.10.1 Arterial Street Edge Treatments. Development adjacent to arterial streets shall conform to the treatments specified by Table 7.5 and Figures 7.60 and 7.61. Edge treatments include:

- a) **Privacy Wall.** The privacy wall condition is characterized by a consistent wall treatment along the side or rear lot lines of detached residential development. Walls shall be planted with trees, shrubs and vines throughout the lengths. Uninterrupted lengths of privacy wall shall generally not exceed 300 feet. Preferred treatment consists of relatively short lengths of wall, interrupted by street intersections, open-ended cul-de-sacs, pedestrian easements and wall offsets with optional private gates.
- b) **Grade Change.** The grade change condition generally occurs where development side yards are located along an arterial street with open space on the opposite side, with a minimum 15 foot grade separation between the roadway and the house pad. This treatment shall not be used for lots backing onto the arterial. The treatment is intended to provide physical and noise protection between the roadway and residential development. The separation may occur by site grading or due to existing grade differences between the roadway and development. Optional fencing or privacy walls may be used in conjunction with this treatment, as long as the majority of the fence/wall is screened by the landform/grade difference.
- c) **Front Facing Development.** Front facing development occurs in the Village Core or other areas where buildings face the arterial street. Vehicular access is generally from the rear. No privacy walls are allowed. A ten foot reduction in the required right-of-way and landscape area is allowed provided primary pedestrian entries face the arterial street.
- d) **Frontage Street.** Frontage streets are intended to allow residential development to face the arterial street. Arterial street ROW may be reduced by ten feet, and the sidewalk eliminated from one side of the frontage street. No privacy walls are allowed.
- e) **Loop Street.** Loop streets are intended to occur in conjunction with frontage streets, open-ended cul-de-sacs, and local street intersections. To the extent possible, homes should face the arterial street. Walls are not allowed except for limited side-yard conditions adjacent to the right of way.
- f) **Large Lots.** Large lots are intended to occur along lower volume arterial streets. Vehicular access is generally provided from intersecting side streets or from the rear. Privacy walls are not allowed.

Table 7.5: Arterial Street Edge Treatments

Edge Treatment Zones	Typical Edge Condition (Fig. 7.60)						
	1	2	3	4	5	6	7
PRIVACY WALL: (with open-ended cul-de-sacs, pedestrian easements, private gates)	●						
GRADE CHANGE (15' minimum) (with fence or optional privacy wall)					●		
FRONT FACING DEVELOPMENT (Commercial, Attached Units, Rear-served Units)		●	○		○		
FRONTAGE STREET (Front Facing Units)			●	○	○	○	○
LOOP STREET (Front Facing, Side-yard walls)			○	○	○	○	○
LARGE LOTS (Front Facing, Rear Served)			○	●	○		○
SIDE YARDS (Frequent intersections, 300' max., limited walls at side yard frontages-100' max.)			○	○	○		●
SINGLE-LOADED STREET AT TOP OF SLOPES (Front or Side Facing Units)			○			●	
● = PREFERRED ○ = ALLOWED							

- g) Side Yards. Arterial street side yard treatments occur in conjunction with intersecting side streets, open-ended cul-de-sacs, or loop streets. Privacy walls may be used for side yard conditions (maximum 100 foot wall length, overlapping no more than 25 feet of the house). To the extent possible, privacy walls should not overlap the house façade. This treatment is not applicable for backing lot conditions.
- h) Single Loaded Streets at Tops of Slopes. This condition is a form of frontage street or loop street that occurs where development areas are located adjacent to and at a higher elevation than the arterial roadway. Homes should face the arterial street. Privacy walls are not allowed.

Policy 7.10.2 Variation from Edge Treatment Requirements. Edge treatments shall conform to the Preferred treatment as shown on Table 7.5, unless one or more of the following conditions apply, in which case one of the allowed treatments may be used:

- The preferred treatment fails to provide adequate noise protection
- The preferred treatment causes undue hardship in terms of land utilization, development cost, or potential safety for future residents
- Developers provide additional open space, parks, recreation facilities, trails, or other community amenities elsewhere within the development area
- In the event the preferred treatment is not used, a combination of allowed treatments shall be utilized for the particular roadway condition

PRIVACY WALLS

Privacy walls include all walls which adjoin major public streets, parks, public use areas and community entrances. Walls should not detract from a sense of openness and public views of the open space, and should only be used where necessary.

Policy 7.10.3 Privacy Walls. Privacy walls shall be subject to the following provisions:

- Walls shall be located according to the provisions of Table 7.5, Figure 7.61 and Figures 7.30 through 7.53.
- Except as addressed by the provisions of Table 7.5, walls are permitted only in conjunction with single family detached uses.
- All privacy walls visible from arterial and connector streets shall utilize the standard design in terms of placement, height, color and materials (see Figures 7.62 and 7.63).
- To reduce their visual prominence, walls and fences should be used in combination with tree, vine, shrub and hedge planting. All privacy walls shall be planted with evergreen or deciduous vines, spaced so as to completely cover the wall within five years.
- Walls visible from arterial and connector streets shall incorporate frequent breaks, generally spaced a maximum of every 300 feet. Breaks may include, in order of preference:
 - Connector or local street intersections
 - Open ended cul-de-sacs or loop streets
 - Pedestrian connections
 - Private gates providing access from individual lots to arterial pathways

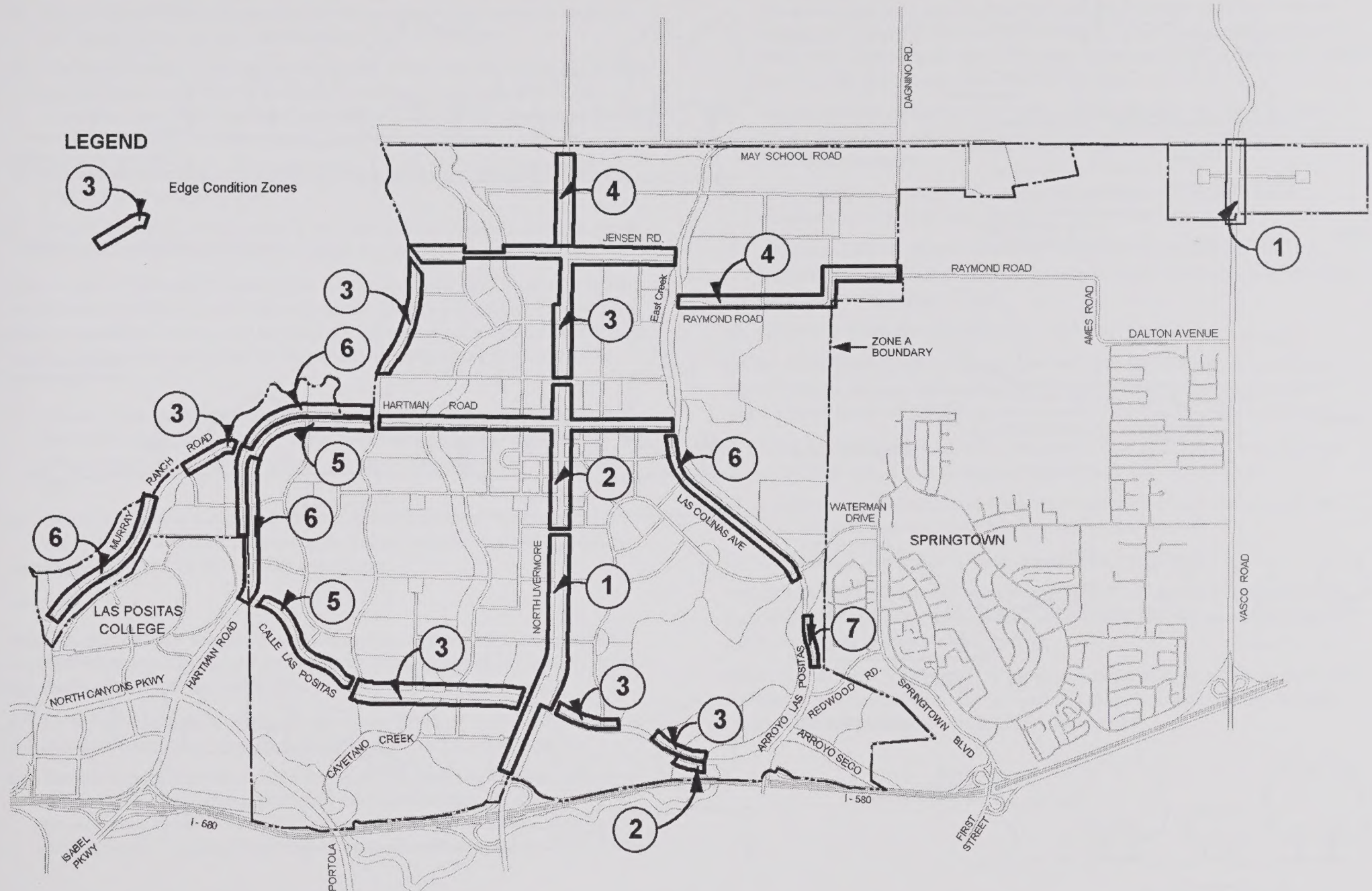


FIGURE 7.60: ARTERIAL EDGE CONDITIONS – PLAN

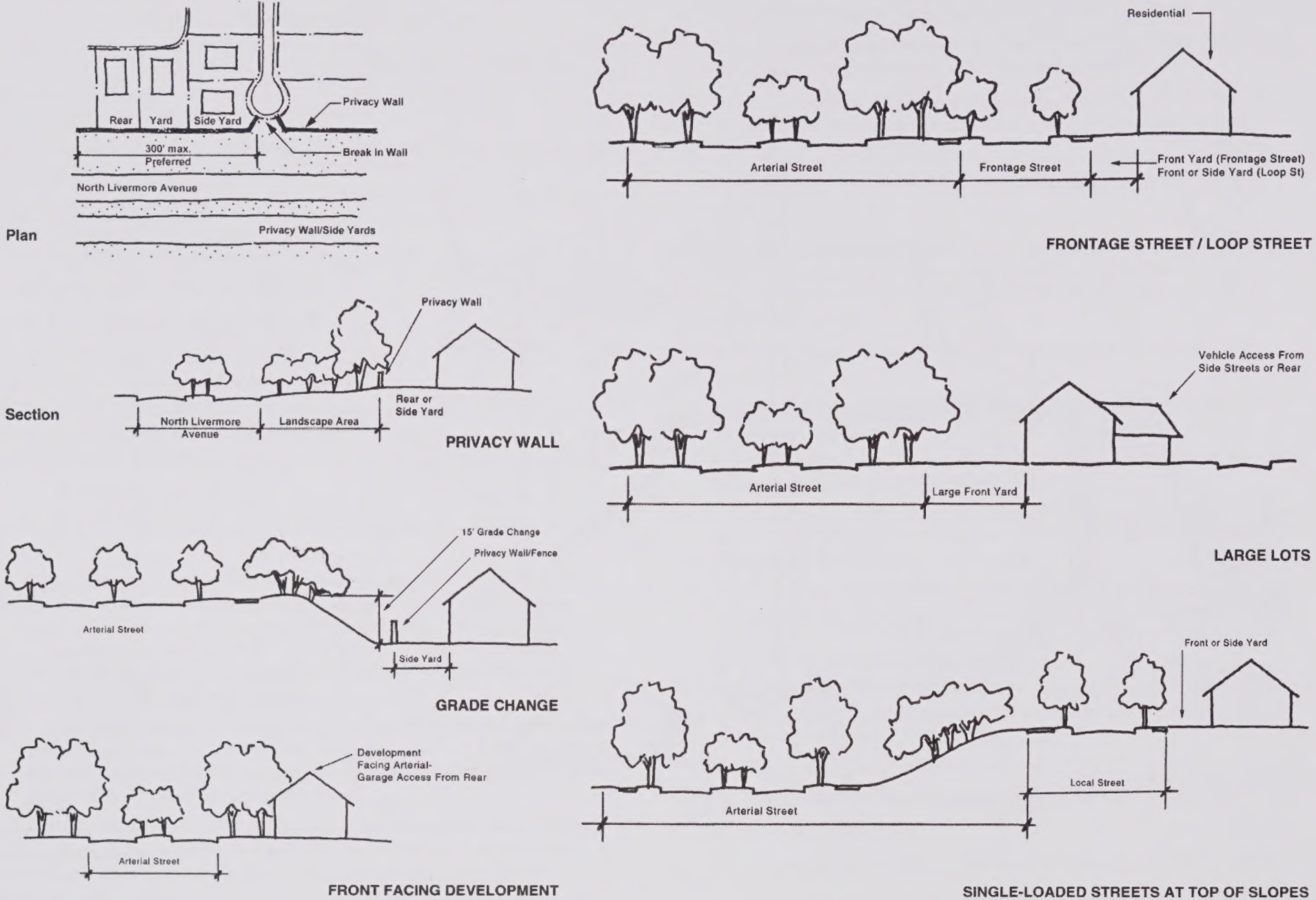


FIGURE 7.61: ARTERIAL EDGE CONDITIONS – TYPICAL TREATMENTS

- f) Except for North Livermore Avenue, the maximum uninterrupted length of side yard privacy walls on arterial streets shall be 100 feet.
- g) The height of walls shall be no more than six feet from the adjoining finished grade of the arterial side of the wall and no more than eight feet on the residential side. When changes in elevation occur, the wall or fence should be stepped in equal, vertical intervals. No step should exceed 12 inches.
- h) Walls shall be located within the landscape area of the public right of way, adjacent to the property line.
- i) Where residential development is directly adjacent to public uses (i.e. parks, schools) the standard privacy wall shall be used (see Figure 7.64).

Policy 7.10.4 Optional Private Gates. Optional private gates in privacy walls are intended to provide direct access from individual residences to the multi-use paths along arterial streets, and to introduce pedestrian scale elements and breaks into the arterial streetscape and privacy walls. Private gates are subject to the following:

- a) Private Gates shall be located between open-ended cul-de-sacs, local streets, pedestrian easements or other breaks in the wall. Wherever possible, the wall offsets which accommodate the private gates shall be located to serve two lots.
- b) Gates may vary in design, but should provide additional detail and articulation of the wall, pilasters, gate design, trellises or other elements to add interest and variety into the street scene.

FENCES

Policy 7.10.5 Privacy Fences. Privacy fences occur along lot lines or between structures and generally should not be visible from major public streets or public use areas. Privacy fences shall be subject to the following provisions:

- a) Solid fences or walls used for privacy or security may occur in either side or rear yard conditions. Fencing shall be limited to six (6) feet in height.
- b) Design of private fences shall be compatible with the building architecture, and should be consistent within each residential neighborhood or development phase. Fences or walls shall be of durable construction, and shall present a “finished” appearance from adjacent properties.

- c) For corner lots, side yard fencing along street frontages shall be located a minimum of five (5) feet from the sidewalk, and shall not overlap more than 25% of the side house facade. Maximum unbroken length of side yard fences shall be 100 feet for adjacent street-facing lots.
- d) Fences or walls connecting two separate units, and visible from the public streets, should be of the same material and color, and be compatible with the building architecture.
- e) To reduce their visual prominence, walls and fences should be used in combination with tree, vine, shrub and hedge planting.
- f) Rear and side yard fences in sloping conditions within the lot, shall be located such that the top of the fence is at or below the level of the roofline, measured to the highest ridge.
- g) Chain link fencing is prohibited on residential properties.

Policy 7.10.6 View Fences. View fences are intended to allow views of open space from private lots, while providing security. View fences may consist of wood or steel posts with wood pickets, wire mesh or decorative wrought iron.

- a) View fences are required where residential uses abut open space areas and creek corridors. Fencing shall be limited to six (6) feet in height.
- b) Fences in areas adjacent to hillside open space areas shall be constructed of predominantly non-combustible/fire resistant materials.
- c) Chain link fencing is prohibited on residential properties.

Policy 7.10.7 Yard Fences. Low, open fencing 3 feet 6 inches or less in height, may be located within the yard setback area. Yard fences may consist of wood picket fencing or decorative iron fencing.

Policy 7.10.8 Security Fences. To provide security of large public or recreation facilities, chain link fencing may be used. All chain link fencing shall be black, vinyl-clad fencing, or equivalent, with posts to match.

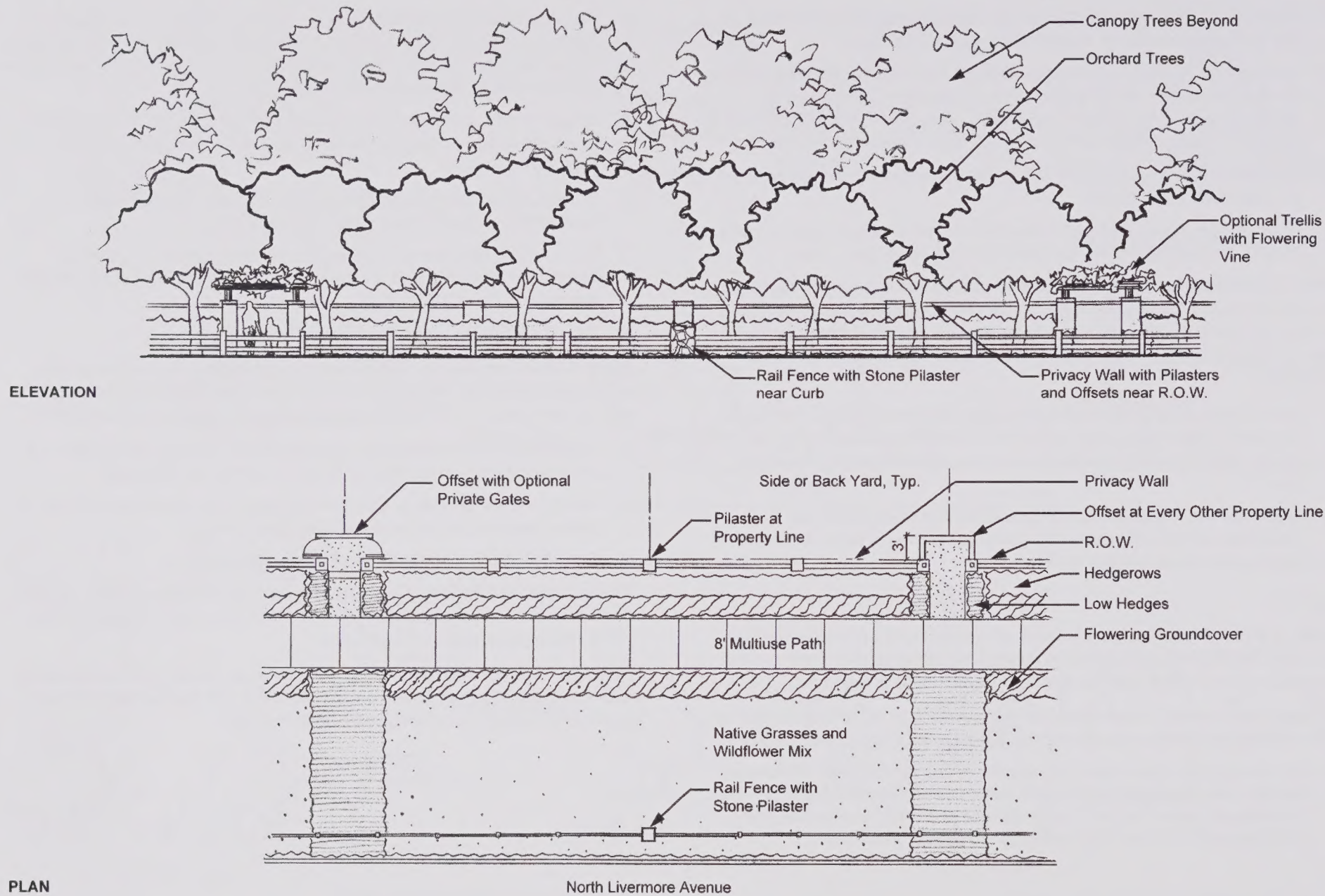


FIGURE 7.62: PRIVACY WALL AND PRIVATE GATES PROTOTYPES

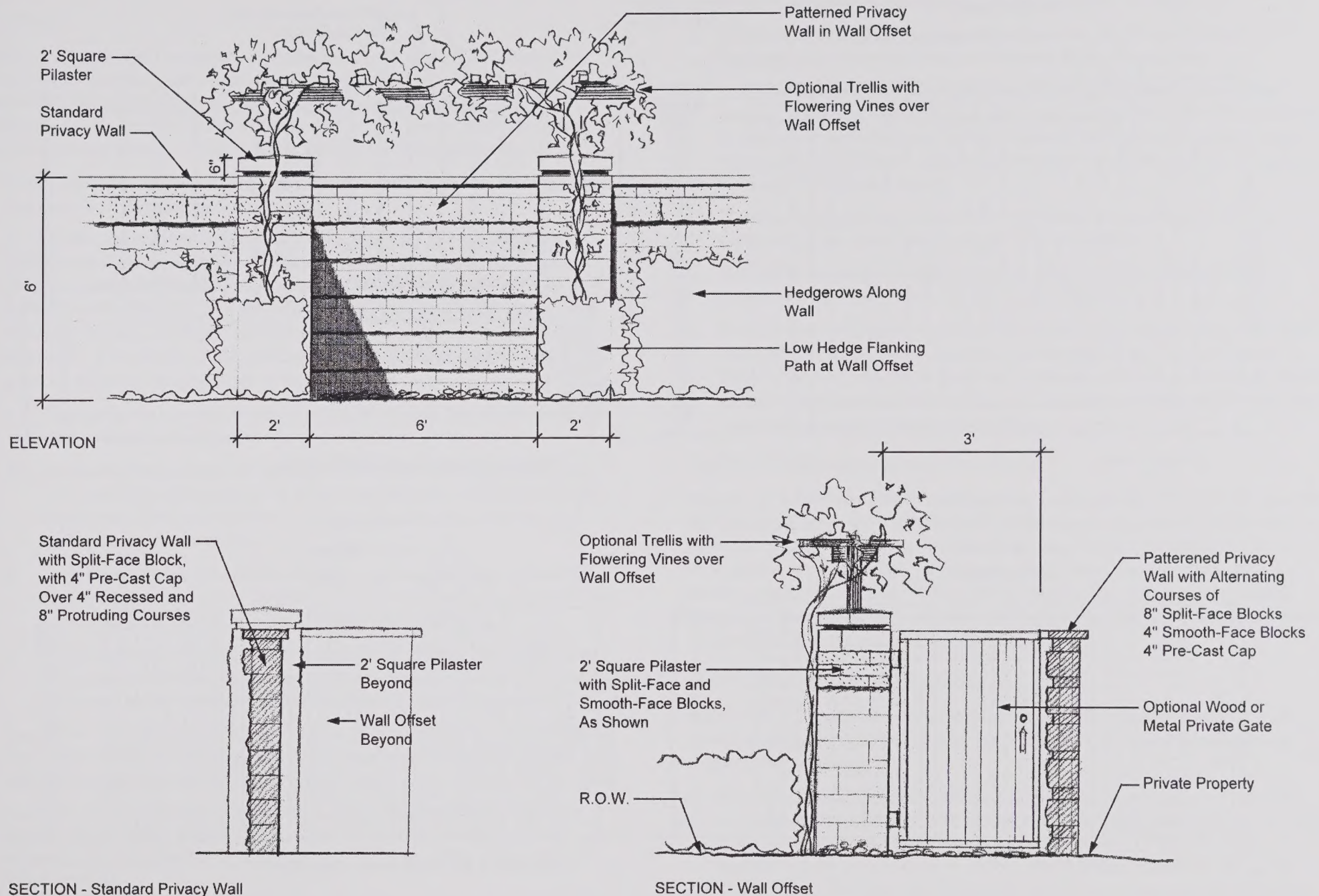


FIGURE 7.63: PRIVACY WALL PROTOTYPES

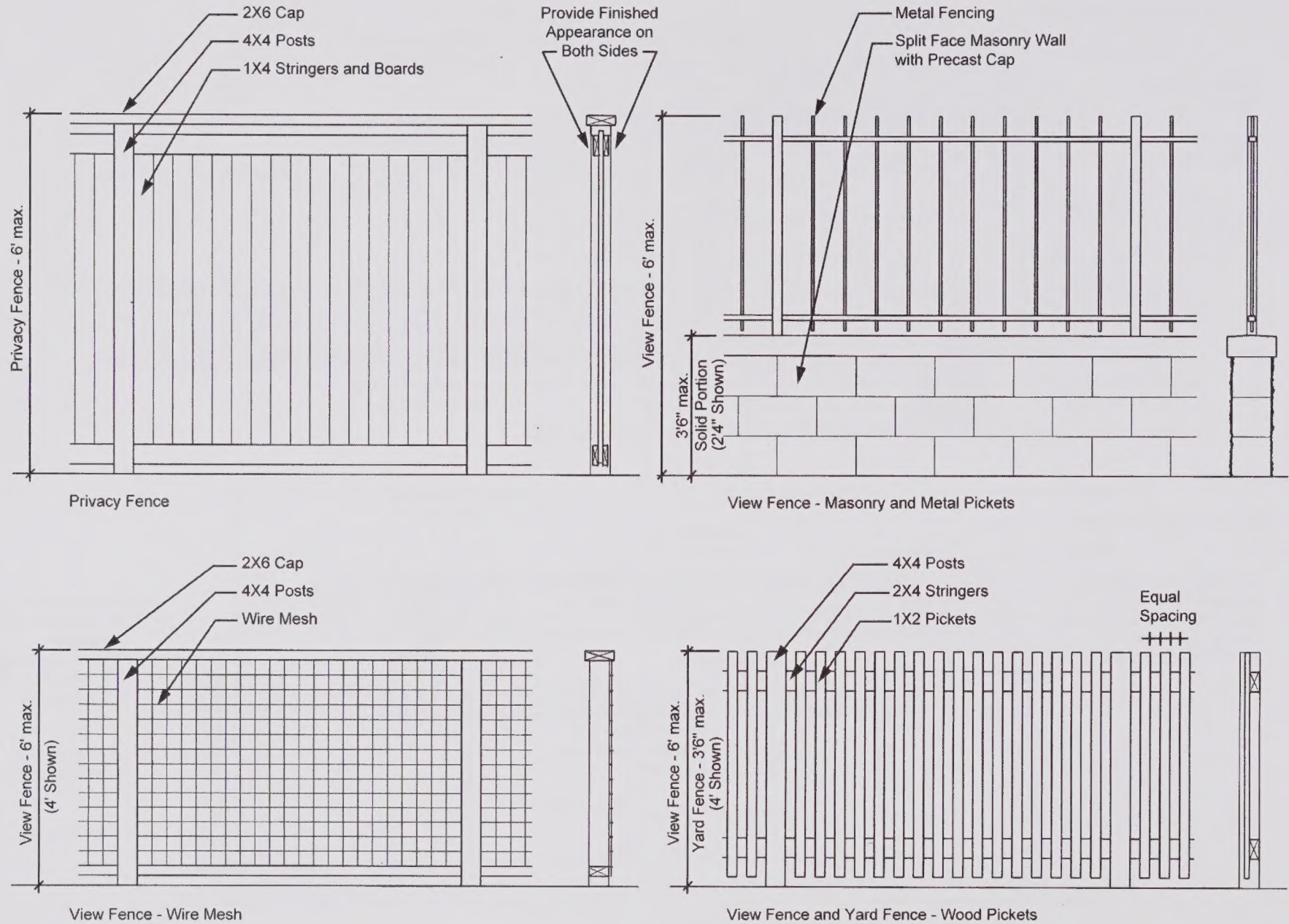


FIGURE 7.64: FENCE PROTOTYPES

7.11 LANDSCAPE

GENERAL

Policy 7.11.1 General Landscape Requirements. As applicable, landscaping within North Livermore shall be subject to the provisions of the *City of Livermore Standard Details and Specifications*, and, as applicable, the *Water Efficient Landscape Ordinance* (Ordinance Number 1399), with any special requirements identified soils or drainage investigations, and the following provisions:

- a) Plant materials shall be selected from Table 7.6: North Livermore Plant List and Table 7.7: Streetscape Plant Palette.
- b) In order to establish a unique and cohesive image for North Livermore specific plant materials shall be utilized consistently for identified areas of the community including; arterial streets, continuous connector streets, hillside residential areas, and the Village Core (see Section 7.8: Streetscape Design). For these areas, the intent is to utilize a limited number of plant species for the majority of the planting in each identified condition. In general, planting throughout the community shall:
 - i. Emphasize the planting of long-lived plant species that are indigenous or well-adapted to the climatic and soils conditions of the site;
 - ii. Emphasize tree planting as the primary focus of landscape plans. Long term landscape development of shaded streets, parks, buffers and other areas is one of the primary determinants of community character and quality living environment;
 - iii. Each area or neighborhood should have a distinct landscape character, different from other areas. Reinforce the distinct character of various site areas through the deliberate use of limited plant species;
 - iv. Avoid planting tree species with invasive root systems near utility lines and paving. Such species may be utilized in setback areas adjacent to roadways, in transition areas provided there is adequate clearance.
- c) Landscape plans for common areas and for all areas where the developer is required to install landscaping shall be prepared by a landscape architect registered to practice in the State of California.
- d) All public areas, rights-of-way and commercial project landscaping, shall have an automatic irrigation system. Low volume spray heads and drip irrigation systems shall be utilized, and shall be compatible with reclaimed water systems.

- e) Landscaping should minimize the use of potable water. Where reclaimed water is available, water intensive landscaping may be used.
- f) Turf should be limited to parks, schools or other active use and/or high visibility areas, unless sufficient reclaimed water is available.
- g) Landscaping should emphasize the use of drought-tolerant, native plant species, particularly in parks and other open space areas. Use of non-native, invasive species which may spread into areas of permanent, undeveloped open space is prohibited. As appropriate, plant materials shall be compatible with use of reclaimed water.
- h) Healthy, mature existing trees shall be retained to the extent feasible, with replacement provided where removal is unavoidable.
- i) Sub-drains for trees utilizing reclaimed water shall be provided unless a percolation test shows such drains are unnecessary.
- j) Root barriers shall be provided where tree planting occurs within four feet of curbs or walkways. Where required, root barriers shall consist of linear barriers located along the edge of the pavement, extending five feet in either direction from the centerline of the tree. Circular or rectangular barriers that encircle the tree root zones are prohibited.

FREEWAY EDGE LANDSCAPE TREATMENT

Policy 7.11.2 Freeway Edge Landscaping. Landscaping of the freeway corridor shall maintain the existing grasslands, riparian vegetation and oak woodlands to the extent possible. The freeway interchange area at North Livermore Avenue shall consist of oak woodland planting on newly created landforms to create a natural appearing condition. Where visible where urban development occurs, landscaping shall result in a natural appearing transition from development areas to open hillsides.

TRANSITION AREAS AND BUFFERS

Policy 7.11.3 Transition Areas and Buffers. Grade transition areas between residential uses and between development and existing natural open space are subject to the following:

- a) Transition areas shall be landscaped to create a visually pleasing transition between development and open space areas, and provide filtered views both from and toward individual residences. Landscaping of transition areas is required where development is visible from existing residential areas, for major public roadways and from public facilities including trails within the open space areas.

- b) Transition areas between development and natural open space should include tree planting near rear lot lines, and increase tree spacing as one moves further into the open areas. Tree planting plans should consider the need to preserve solar access and views, and to maintain fire safety requirements.
- c) Landscaping of transition areas shall emphasize trees planting and grasses. A minimum of one native tree per lot shall be planted near the rear or side property line for each lot abutting the open space area. As a part of improvement plans, a landscape plan for these areas shall be prepared showing species, placement and distribution. Additional tree planting is encouraged. Irrigation shall be provided for plant establishment.
- d) Developers shall be responsible for the installation of this landscaping and provision of maintenance during a one-year establishment period. Private homeowners are prohibited from planting or building fences or other structures outside their private lots.

PRIVATE YARDS

Landscaping of private yards includes both builder required planting and longer term efforts by homeowners. The following guidelines are intended for use by residential builders. These requirements primarily address tree plantings which directly affect the visual appearance and buffering of the community. Over time, homeowners will add variety, accent, and individual expression to the community landscape environment.

Policy 7.11.4 Landscaping of Private Yards. Landscaping of private yards shall be subject to the following requirements:

- a) In addition to required street trees, each detached home facing a public street shall include a minimum of one tree located within the front yard area.
- b) In order to avoid a disjointed appearance in tentative maps with narrow lots (less than 45 feet in width), front yard landscaping shall be provided by the developers of each neighborhood.
- c) Planting of side yard areas with vertical trees is encouraged to provide privacy and reduce the visual impact of residential areas, particularly where large expanses of walls are visible such as zero lot line homes.
- d) For lots abutting arterial streets and creek corridors, one tree shall be planted within the rear yard area. Irrigation shall be provided for plant establishment. For homes abutting arterial streets, the rear yard tree shall be a large, canopy tree, located near the rear lot line.

- e) For other lots, residential builders are encouraged to plant a minimum of one tree within the rear yard.

PARKING LOTS

Policy 7.11.5 Parking Lot Landscaping. Except as modified below, landscaping of parking areas shall conform the City of Livermore Zoning Ordinance:

- a) Parking lots should be planted with trees at a rate of one tree per six parking spaces to visually minimize their visual impact, and to create a shaded, cooler environment. These trees are in addition to the perimeter area plantings in the landscape setback area.
- b) For commercial establishments, trees should be selected which allow adequate visibility to the stores, beneath the mature tree canopies
- c) Parking lots should be surrounded by a continuous hedge or shrub planting. Hedges and shrubs should mature or be maintained no higher than 42" in height.
- d) Sight distance requirements shall be maintained at parking lot entries.

PLANT LIST

Plant materials have been selected for North Livermore in order to establish a unique landscape character, and which are particularly well-suited to the soils, climatic and water requirements for the area.

Policy 7.11.6 North Livermore Plant List. Plant materials for designated street corridors or other special conditions shall comply with Table 7.6: North Livermore Plant List and Table 7.7: Streetscape Plant Palette.

- a) "Primary" plants include tree species selected for adaptability and form. For each designated type of treatment, Primary species shall constitute the majority of tree planting. The remaining species may include a combination of other plant species from the list, as appropriate for the type of planting.
- b) "Orchard trees" designated for North Livermore Avenue may include a variety of species, however, each 'block' of trees occurring between neighborhood entries or intersections on both sides of the road and median, shall be a single species.
- c) Substitutions or additions to the plant list will be considered based on the suitability of the species in terms of similarity of form, adaptability, tolerance to site soils, climatic conditions or water quality, or other pertinent characteristics.

Table 7.6: North Livermore Plant List

See Table 7.67: for Streetscape Plant Palettes

PLANT TYPE	PLANT NAME	COMMON NAME	TYPE		SIZE		TOLERANCE			Clay Soils	Reclaimed Water	Alkaline Soils
			Evergreen/ Deciduous	Flowering	Autumn Color	Height x Width	Drought	Salinity	Boron			
Trees	<i>Aesculus californica</i>	California Buckeye	D	Spring		25 x 20'	Yes			No		
	<i>Albizia julibrissin</i>	Silk Tree	D	Summer		40 x 50'	Yes				Yes	
	<i>Alnus cordata</i>	Italian Alder	D			40 x 25'				No	Yes	
	<i>Arbutus 'Marina' or A. unedo</i>	Strawberry Tree	E	Fall		30 x 30'			Yes	No	Yes	Yes
	<i>Brachychiton populneus</i>	Bottle Tree	E	Spring		50 x 30'						
	<i>Calocedrus decurrens</i>	Incense Cedar	E			70 x 40'	Yes					
	<i>Carpinus betulus 'Fastigiata'</i>	European Hornbeam	D	Spring		40 x 30'						
	<i>Cedrus deodara</i>	Deodar Cedar	E			70 x 40'	Yes		Yes		Yes	
	<i>Celtis occidentalis</i>	Common Hackberry	D		Yes	40 x 35'	Yes		Yes			
	<i>Celtis australis</i>	European Hackberry	D		Yes	40 x 35'	Yes					
	<i>Cercis canadensis</i>	Eastern Redbud	D	Spring	Red	35 x 25'			Yes		Possible	
	<i>Cercis occidentalis</i>	Western Redbud	D	Spring	Red	25 x 20'					Yes	
	<i>Crataegus spp.</i>	Hawthorne species	D	Spring	Red	Varies						
	<i>Eucalyptus camaludensis</i>	Red River Gum	E	Summer		80 x 40'	Yes				Yes	
	<i>Eucalyptus citriodora</i>	Lemon Gum	E	Winter		75 x 35'	Yes				Possible	
	<i>Eucalyptus cordata</i>	Heart Leaved Silver Gum	E				Yes			Yes	Possible	Yes
	<i>Eucalyptus leucoxylon</i>	White Ironbark	E	Summer		60 x 30'	Yes	Yes	Yes	Yes	Possible	Yes
	<i>Geijera parvifolia</i>	Desert Willow	E			30 x 25'	Yes					
	<i>Juglans hindsii</i>	California Black Walnut	D			50 x 50'	Yes			No	Yes	
	<i>Koelreuteria paniculata</i>	Golden Rain Tree	D	Summer	Yellow	30 x 30'	Yes			Yes	Yes	Yes
	<i>Lagerstroemia indica</i>	Crape Myrtle	D	Summer	Varies	Varies	Yes					Yes
	<i>Laurus nobilis</i>	Grecian Bay	E			25 x 20'				No	Yes	Yes
	<i>Leptospermum laevigatum</i>	Australian Tea Tree	E	Spring		30 x 30'						Yes
	<i>Liquidambar styraciflua, L. rotundiloba</i>	American Sweetgum	D		Varies	50 x 25'			Yes			
	<i>Magnolia grandiflora 'Russett' or 'Galaxy'</i>	Southern Magnolia	D	Spring	Yellow	30 x 15'						
	<i>Malus spp.</i>	Crabapple species	D	Varies	Varies	20 x 20'						
	<i>Melaleuca quinquenervia</i>	Cajeput Tree	E	Spring		20 x 20'		Yes		Yes		Yes
	<i>Melaleuca styphelioides</i>	Prickly Melaleuca	E	Spring		40 x 20'		Yes		Yes		Yes
	<i>Morus alba</i>	Fruitless Mulberry	D		Yellow	40 x 40'			Yes		Yes	Yes
	<i>Nyssa sylvatica</i>	Tupelo Tree	D		Red	50 x 25'						Yes
	<i>Olea europaea 'Swan Hill'</i>	Fruitless Olive	E			30 x 30'	Yes		Yes		Yes	
	<i>Phoenix canariensis</i>	Canary Island Date Palm	E			60 x 50'	Yes				Yes	Yes

Table 7.6: North Livermore Plant List (Continued)

Plant Type	Plant Name	Common Name	Type		Size	Tolerance				Clay Soils	Reclaimed Water	Alkaline Soils
			Evergreen/ Deciduous	Flowering	Autumn Color	Height x Width	Drought	Salinity	Boron			
Trees (cont.)	<i>Pinus canariensis</i>	Canary Island Pine	E			80 x 50'	Yes				Yes	Yes
	<i>Pinus halepensis</i>	Aleppo Pine	E			80 x 60'	Yes				Yes	Yes
	<i>Pinus pinea</i>	Italian Stone Pine	E			60 x 50'	Yes	Yes	Yes		Yes	
	<i>Pistacia chinensis</i>	Chinese Pistache	D		Red	25 x 20'	Yes					
	<i>Platanus racemosa</i>	California Sycamore	D		Yellow	60 x 50'			Yes		Yes	
	<i>Platanus x acerifolia</i> 'Yarwood'	London Plane Tree	D		Yellow	60 x 50'			Yes	No	Yes	
	<i>Populus fremontii</i>	Cottonwood	D		Yellow	50 x 15'	Yes			No	Yes	
	<i>Populus nigra</i> 'Thevestina'	Theve's Poplar	D		Yellow	70 x 15'	Yes				Yes	
	<i>Populus</i> spp.	Poplars	D		Yellow	Varies	Yes				Yes	
	<i>Prunus cerasifera</i> 'Purple Pony'	Purple Leaf Plum	D	Spring	Red	30 x 30'					Yes	
	<i>Prunus ilicifolia</i>	Hollyleaf Cherry	E			25 x 30'					Yes	
	<i>Prunus x blireiana</i>	Flowering Plum	D	Spring		25 x 20'				No	Yes	
	<i>Prunus serrulata</i>	Japanese Flowering Cherry	D									
	<i>Pyrus calleryana</i>	Bradford Pear	D	Spring	Yellow, Red	50 x 35'			Yes			
	<i>Pyrus kawakamii</i>	Evergreen Pear	Semi D	Spring	Yellow, Red	50 x 35'			Yes			
	<i>Quercus agrifolia</i>	Coast Live Oak	E			40 x 50'	Yes	Yes	Yes	Yes	Yes	
	<i>Quercus coccinea</i>	Scarlet Oak	D		Red	50 x 40'	Yes			No		
	<i>Quercus douglasii</i>	Blue Oak	D		Orange	50 x 50'	Yes			No		
	<i>Quercus ilex</i>	Cork Oak	E			20 x 20'	Yes	Yes	Yes	No	Yes	Yes
	<i>Quercus lobata</i>	Valley Oak	D			60 x 70'	Yes			No	Yes	Yes
	<i>Quercus macrocarpa</i>	Bur Oak	D			60 x 30'	Yes			No		
	<i>Quercus robur</i> 'Skymaster'	Skymaster Oak	D			60 x 60'	Yes			No	Yes	Yes
	<i>Quercus suber</i>	Cork Oak	E			50 x 30'	Yes			Yes	Yes	Yes
	<i>Rhus lancea</i>	African Sumac	E			20 x 20'	Yes			Yes		Yes
	<i>Robinia ambigua</i> 'Idahoensis'	Idaho Locust	D	Spring	Yellow	40 x 35'	Yes		Yes		Yes	Yes
	<i>Robinia pseudoacacia</i>	Black Locust	D	Spring	Yellow	40 x 35'	Yes		Yes		Yes	Yes
	<i>Schinus molle</i>	California Pepper	E			30 x 35'	Yes			Yes	Yes	Yes
	<i>Tristania conferta</i>	Brisbane Box	E			20 x 15'	Yes			Yes		
Shrubs	<i>Abelia grandiflora</i> 'Edward Goucher'	Glossy Abelia	E	Showy		3 x 5'						
	<i>Berberis thunbergii</i> 'Atropurpurea Nana'	Barberry	D			3 x 5'						
	<i>Buxus microphylla japonica</i>	Japanese Boxwood	E								Yes	
	<i>Ceanothus</i> spp	Wild Lilac	E							No	Yes	
	<i>Cistus</i> 'skanbergii''	Rockrose	E					Yes				
	<i>Cistus</i> <i>Salvifolius</i>	Sageleaf Rockrose	E					Yes				
	<i>Correa pulchella</i> 'Ivory bells'	Australian Fuschia	E					Yes				

Table 7.6: North Livermore Plant List (Continued)

PLANT TYPE	PLANT NAME	COMMON NAME	TYPE		SIZE		TOLERANCE			Clay Soils	Reclaimed Water	Alkaline Soils
			Evergreen/ Deciduous	Flowering	Autumn Color	Height x Width	Drought	Salinity	Boron			
Shrubs (contd)	<i>Cotinus coggygria</i> 'Purpureus'	Smoke Tree	D									
	<i>Cotoneaster damori</i> 'Coral Beauty'		D				Yes				Yes	
	<i>Dodonea viscosa</i> 'Purpurea'	Purple Hop Bush	E					Yes		No	Yes	
	<i>Escallonia exoniensis</i> 'Fradesii'		E					Showy				
		3 x 3'	Yes	Yes								
	<i>Euryops pectinatus</i>	Yellow Bus Daisy	E	Showy		3 x 5'	Yes	Yes			Yes	
			E									
	<i>Leptospermum scoparium</i>	New Zealand Tea Tree	E					Yes				
	<i>Myrtus communis compacta</i>	Compact Myrtle	E							No	Yes	
	<i>Osmanthus fortunei</i> 'San Jose'	Osmanthus	E			3 x 5'						
	<i>Osmanthus fragrans</i>	Sweet Olive	E			3 x 5'						
	<i>Pittosporum tobira</i>	Tobira	E			5 x 4'		Yes		No	Yes	
	<i>Pittosporum tobira</i> 'variegata'	Variegated Tobira	E			5 x 4'					Yes	
	<i>Pittosporum tobira</i> 'Wheeler's dwarf'	Tobira	E			2 x 3'				No		
	<i>Plumbago auriculata</i>	Cape Plumbago	E				Yes					
	<i>Prunus lyonii</i>	Catalina Cherry	E				Yes				Yes	
	<i>Punica granatum</i> 'Wonderful'	Pomegranate	E				Yes				Yes	
	<i>Raphiolepis indica</i> 'Springtime'	India Hawthorne	E	Showy					3 x 5'			
		Yes		No	Yes							
	<i>Raphiolepis</i> x 'Majestic Beauty'		E	Showy		5 x 6'		Yes		No	Yes	
	<i>Rhamnus californica</i> 'Eve Case'	Coffeeberry	E						6 x 6'			
	Yes	Yes			Yes							
	<i>Rhus ovata</i>	Sugar Bush	E				Yes				Yes	
	<i>Ribes sanguineum glutinosum</i>	Flowering Currant	E									
	<i>Ribes viburnifolium</i>	Catalina Fragrance	E									
	<i>Rosa spp</i>	Shrub and Climbing Roses	D	Showy		Varies						
	<i>Sarcococca ruscifolia</i>	Fragrant Sarcococca	E									
	<i>Spiraea burnalda</i> 'Anthony Waterer'	Spiraea	E									
	<i>Viburnum tinus</i> 'Spring Bouquet'	Compact Laurestinus	E	Showy		6 x 6'						
	<i>Xylosma congestum</i>	Shiny Xylosma	E				Yes					
Groundcovers	<i>Baccharis pilularis</i> 'Twin Peaks'	Dwarf Coyote Brush					Yes				Yes	
	<i>Cistus salvifolius</i>	Sage Leaf Rockrose					Yes					
	<i>Coprosma kirkii</i>	Creeping Mirrorplant				2 x 6'	Yes					
	<i>Coprosma pumila</i> 'Verde Vista'	Mirror Plant										

Table 7.6: North Livermore Plant List (Continued)

PLANT TYPE	PLANT NAME	COMMON NAME	TYPE		SIZE		TOLERANCE			Clay Soils	Reclaimed Water	Alkaline Soils
			Evergreen/ Deciduous	Flowering	Autumn Color	Height x Width	Drought	Salinity	Boron			
Groundcovers (contd)	<i>Cotoneaster congestus</i> 'Likiang'		D			2 x 6'	Yes	Yes	Yes	No	Yes	
	<i>Cotoneaster horizontalis</i>	Rock Cotoneaster	D			2 x 6'	Yes	Yes	Yes	No	Yes	
	<i>Euonymus fortunei</i> 'Coloratus'	Wintercreeper	E								Yes	
	<i>Festuca rubra</i>	Red Fescue								No	Yes	
	<i>Hedera helix</i> 'Hahn's'	Hahn's Ivy								Yes	Yes	
	<i>Hypericum calycinum</i>	Creeping St. Johnswort		Showy			Yes	Yes	Yes	Yes	Yes	
	<i>Iberis sempervirens</i> 'Snowflake'	Candytuft										
	<i>Lonicera japonica</i> 'purpurea'	Japanese Honeysuckle								No	Yes	
	<i>Mahonia repens</i>	Creeping Mahonia					Yes					
	<i>Oenothera berlandieri</i>	Mexican Evening Primrose					Yes				Yes	
	<i>Rosa spp</i>	Carpet Roses	D	Showy								
	<i>Rosmarinus officinalis</i> 'Collinswood Ingram's'	Ingram Rosemary	E	Showy			Yes	Yes	Yes	No	Yes	
	<i>Trachelospermum asiaticum</i>	Star Jasmine		Showy								
Perennials	<i>Agapanthus africanus</i>	Lily of the Nile		Showy						No		
	<i>Agapanthus orientalis</i>	Lily of the Nile		Showy						No	Yes	
	<i>Agapanthus umbellatus</i>	Lily of the Nile		Showy						No	Yes	
	<i>Diplacus hybrids</i>	Sticky Monkeyflower										
	<i>Hemerocallis species</i>	Daylily		Showy								
	<i>Kniphofia uvaria</i>	Red Hot Poker		Showy								
	<i>Phormium tenax</i>	New Zealand Flax					yes					
	<i>Salvia leucantha</i>	Mexican Sage					Yes					
	<i>Teucrium chamaedrys</i>	Germander					Yes			No	Yes	
	<i>Teucrium fruticans</i>	Bush Germander					Yes					
	<i>Teucrium fruticans compacta</i>	Compact Bush Germander					Yes					
Vines	<i>Campsis tagliabuana</i>	Trumpet Vine										
	<i>Clytostoma callistegioides</i> "Madame Galen"	Blue Trumpet Vine										
	<i>Gelsemium sempervirens</i>	Carolina Jessamine										
	<i>Jasminum polyanthum</i>	Pink Jasmine										
	<i>Lonicera japonica</i> 'Halliana'	Hall's Honeysuckle								No	Yes	
	<i>Parthenocissus quinquefolia</i>	Virginia Creeper								No	Yes	
	<i>Solanum jasminoides</i>	Potato Vine										
	<i>Tecomaria capensis</i>	Cape Honeysuckle					Yes					
	<i>Wisteria venusta</i>	Silky Wisteria					Yes					
	<i>Polygonum aubertii</i>	Silver Lace Vine					Yes					

Table 7.7: Streetscape Plant Palette

See Figure 7.29: Streetscape Master Plan for locations.

See Table 7.6: Community Plant List, for more information on plants suitable for reclaimed water irrigation and alkaline/poorly draining soils.

Location	Plant Type	Plant Name
North Livermore Avenue at I-580 Gateway	Hillside Tree (primary)	<i>Quercus agrifolia</i> Coast Live Oak
	Hillside Trees (options)	<i>Aesculus Californica</i> California Buckeye
		<i>Quercus douglasii</i> Blue Oak
		<i>Quercus lobata</i> Valley Oak
		<i>Quercus macrocarpa</i> Bur Oak
	Small Flowering Trees in Median	<i>Lagetroemia indica</i> Crape Myrtle
		<i>Prunus spp.</i> , <i>Pyrus spp.</i> , and others as appropriate
	Screen Tree (primary)	<i>Schinus molle</i> California Pepper
	Screen Trees (options)	<i>Prunus ilicifolia</i> Hollyleaf Cherry
		<i>Leptospermum laevigatum</i> Australian Tea Tree
North Livermore Avenue South of Village Core (Orchard Landscape)	Orchard Landscape Trees	<i>Cercis canadensis</i> Redbud
		<i>Crataegus spp.</i> Hawthorne species
		<i>Malus species</i> Crabapple
		<i>Olea europaea</i> 'Swan Hill' Fruitless Olive
		<i>Prunus persica</i> Ornamental Peach
		<i>Prunus serrulata</i> Japanese Flowering Cherry

Location	Plant Type	Plant Name
North Livermore Avenue and Hartman Road at Village Core	Canopy Trees at Privacy Wall (primary)	<i>Prunus x blireiana</i> Flowering Plum
		<i>Pyrus calleryana</i> Bradford Pear
		<i>Juglans hindsii</i> California Black Walnut
		<i>Celtis australis</i> European Hackberry
		<i>Robinia ambigua</i> 'Idahoensis'
	Canopy Trees at Privacy Wall (option)	Idaho Locust
		<i>Robinia pseudoacacia</i> Black Locust
	Hedgerow Tree (primary)	<i>Populus nigra</i> 'Thevestina' Theve's Poplar
	Hedgerow Trees (options)	<i>Taxodium mucronatum</i> Mexican Cypress
		<i>Populus spp.</i> (other poplar species)
		<i>Quercus robur</i> 'Skymaster' Skymaster Oak
	Groundcover	Native Grasses, Wildflower Hydroseed Mix, Oenothera, Red Fescue, other as appropriate
	Specimen Tree at Arterial Intersections	<i>Phoenix canariensis</i> Canary Island Date Palm
	Canopy Tree	<i>Robinia ambigua</i> 'Idahoensis' Idaho Locust

Table 7.7: Streetscape Plant Palette (Continued)

Location	Plant Type	Plant Name	Location	Plant Type	Plant Name
Jensen Road, Calle Las Positas and Las Colinas Road Through Hills	Windrow Trees (primary)	<i>Eucalyptus camaludensis</i> Red River Gum	Hartman Road Between Jensen Road and Calle Las Positas	Hillside Trees (primary)	<i>Quercus suber</i> Cork Oak
	Windrow Trees (option)	<i>Eucalyptus citriodora</i> Lemon Gum		Hillside Trees (options)	<i>Juglans hindsii</i> California Black Walnut
		<i>Eucalyptus leucoxylon</i> White Ironbark			<i>Quercus agrifolia</i> Coast Live Oak
	Hillside Tree (primary)	<i>Quercus suber</i> Cork Oak			<i>Quercus ilex</i> Holly Oak
	Hillside Trees (option)	<i>Juglans hindsii</i> California Black Walnut			<i>Quercus lobata</i> Valley Oak
		<i>Leptospermum laevigatum</i> Australian Tea Tree			<i>Quercus macrocarpa</i> Bur Oak
		<i>Quercus agrifolia</i> Coast Live Oak			<i>Schinus molle</i> California Pepper
		<i>Quercus lobata</i> Valley Oak		Canopy Trees (primary)	<i>Platanus x acerifolia</i> 'Yarwood' London Plane Tree
		<i>Quercus macrocarpa</i> Bur Oak		Canopy Trees (option)	<i>Quercus suber</i> Cork Oak
		<i>Schinus molle</i> California Pepper			<i>Quercus agrifolia</i> Coast Live Oak
	Groundcover	Hydroseed Grasses; Red Fescue			<i>Schinus molle</i> California Pepper
Murray Ranch Road	Canopy Trees (primary)	<i>Celtis occidentalis</i> Common Hackberry	Hartman Road East and West of Village Core	Canopy Street Tree	<i>Platanus x acerifolia</i> 'Yarwood' London Plane Tree
		<i>Quercus ilex</i> Holly Oak		Groundcover	Hydroseed Grasses; Red Fescue
	Canopy Trees (option)	<i>Quercus suber</i> Cork Oak			
		<i>Schinus molle</i> California Pepper			
	Groundcover	Hydroseed Grasses; Red Fescue			
Creek Roads Including Las Colinas Road Along East Creek				Street Trees	<i>Alnus cordata</i> Italian Alder
					<i>Cedrus deodara</i> Deodar Cedar
					<i>Pinus halepensis</i> Aleppo Pine

Table 7.7: Streetscape Plant Palette (Continued)

Location	Plant Type	Plant Name	Location	Plant Type	Plant Name
Primary Windrow Streets Raymond, North Side of Community Park, E-W Connectors South of Village Core	Groundcover	<i>Pistacia chinensis</i> Chinese Pistache	Connectors and Local Streets	Street Trees (especially hillside areas)	<i>Juglans hindsii</i> California Black Walnut
		<i>Populus fremontii</i> Cottonwood			<i>Quercus agrifolia</i> Coast Live Oak
		Hydroseed Grasses; Red Fescue			<i>Quercus coccinea</i> Scarlet Oak
		Turf			<i>Quercus ilex</i> Cork Oak
	Windrow Tree (primary)	<i>Eucalyptus camaludensis</i> Red River Gum		<i>Quercus lobata</i> Valley Oak	
	Windrow Trees (options)	<i>Eucalyptus citriodora</i> Lemon Gum		<i>Quercus macrocarpa</i> Bur Oak	
		<i>Eucalyptus leucoxylon</i> White Ironbark		<i>Quercus suber</i> Cork Oak	
	Groundcover	<i>Populus spp.</i> Poplars		Street Trees	<i>Arbutus 'Marina' or unedo</i> Strawberry Tree
		Hydroseed Grasses; Red Fescue			<i>Cedrus deodara</i> Deodar Cedar
	Secondary Windrow Streets, East-West Connectors	Groundcover		Turf	<i>Celtis occidentalis</i> Common Hackberry
			<i>Eucalyptus cordata</i> Heart Leaved Silver Gum		
Windrow Tree (primary)		<i>Liquidambar styraciflua</i> , <i>L. rotundiloba</i> American Sweetgum	<i>Koelruteria paniculata</i> Golden Rain Tree		
Windrow Trees (options)		<i>Pinus canariensis</i> Canary Island Pine			
		<i>Melaleuca styphelioides</i> Paperbark			
Groundcover	Hydroseed Grasses; Red Fescue				
	Turf				
			Connectors and Local		<i>Melaleuca quinquenervia</i> Cajeput Tree
					<i>Melaleuca styphelioides</i> Prickly Melaleuca
					<i>Morus alba</i> Fruitless Mulberry
					<i>Pinus pinea</i> Italian Stone Pine
					<i>Tristania conferta</i> Brisbane Box

Table 7.7: Streetscape Plant Palette (Continued)

Location	Plant Type	Plant Name	Location	Plant Type	Plant Name
Neighborhood Entries	Groundcover	Hydroseed Grasses; Red Fescue Turf	May School Road Greenbelt	Windrow Tree (primary)	<i>Eucalyptus camaludensis</i> Red River Gum
	Canopy Trees	<i>Lagestroemia indica</i> Crape Myrtle <i>Prunus</i> spp. <i>Pyrus</i> spp., and other accent trees as appropriate		Windrow Trees (options)	<i>Eucalyptus citriodora</i> Lemon Gum <i>Eucalyptus leucoxylon</i> White Ironbark <i>Populus species</i> Poplar/Cottonwood
	Groundcover	<i>Oenothera berlandieri</i> Mexican Evening Primrose		Orchard Landscape Trees	<i>Crataegus</i> spp. Hawthorne species <i>Malus</i> spp. Crabapple species <i>Olea europaea</i> 'Swan Hill' Fruitless Olive <i>Prunus cerasifera</i> 'Purple pony' Purple Leaf Plum <i>Prunus serrulata</i> Japanese Flowering Cherry <i>Prunus x blireiana</i> Flowering Plum <i>Pyrus calleryana</i> Bradford Pear Other orchard trees, as appropriate
	Creek Corridor Trees	<i>Alnus cordata</i> Italian Alder <i>Populus fremontii</i> Cottonwood <i>Platanus racemosa</i> California Sycamore <i>Salix</i> spp. Willow species <i>Quercus lobata</i> Valley Oak <i>Quercus agrifolia</i> Coast Live Oak			
Cayetano and Las Positas Creek Corridors	Groundcover	Hydroseed Grasses; Red Fescue			
	Groundcover (where piped)	Turf			

7.12 SIGNAGE

Permanent signs located in the Plan Area will aid in establishing a sense of continuity, quality and character for North Livermore. The purpose of permanent signs is to convey information regarding the names of streets, developments, neighborhoods and community facilities. Permanent signs include community entry signs, neighborhood or subdivision signs, directional signs, street signs and signs identifying businesses in the mixed use or commercial areas. In conjunction with the Streetscape and Entries Master Plan, a comprehensive signage program shall be prepared for the Urban Area. See Policy 8.2.4.

Policy 7.12.1 Permanent Signage. Except as modified below, all signage shall be in conformance with the City of Livermore Zoning Ordinance and *The Manual of Uniform Traffic Control*, as applicable. In general, permanent signs shall be utilized only where necessary, and in an understated manner, emphasizing an image of permanence and quality. Signs shall utilize materials and coatings which are permanent, durable and vandal resistant. Signs shall be designed as an integral part of the community image walls and monuments and blend into the overall setting, subject to the following provisions by sign type

Policy 7.12.2 Community Entry Monuments and Identification Signs. These features and associated landscape treatments shall be used to establish an identity for the entire plan area and to mark the primary points of entry into the community (Figures 7.55 and 7.59).

- a) Community entry signs shall be integrated into the stone entry monuments, walls or pylons occurring at the Community Gateway, Community Entries or Arterial intersections.
- b) Lettering should consist of surface mounted letters, or an inset panel of contrasting material with incised letters.
- c) Signs may be illuminated by ground-mounted or internal lights. Internal lights are restricted to use of ‘halo-lit’ letters or similar discrete lighting method.

Policy 7.12.3 Neighborhood and Subdivision Entry Monument Signs. These features and associated landscape treatments shall be used to establish an identity for discrete residential subdivisions.

- a) Neighborhood entry signs shall be integrated into the stone entry walls or monuments occurring at designated neighborhood entries.
- b) The information shall be limited to the name of the neighborhood or subdivision, and the street name, if applicable.
- c) Lettering shall consist of surface mounted letters, or an inset panel of

contrasting material, with incised letters.

- d) Signs may be illuminated by ground-mounted or internal lights. Internal lights are restricted to use of ‘halo-lit’ letters or similar discrete lighting method.

Policy 7.12.4 Community Directional Sign. These signs shall be used to help orient and identify major community facilities and civic uses within the Plan Area. Additionally, these signs serve to reinforce the community image.

- a) Directional signs shall be located near major decision points, perpendicular to the roadway, in the landscape setback.
- b) Directional signs should be easily visible and readable from a distance of 100' minimum. Maximum heights of these signs shall not exceed 6 feet.
- c) Directional signs shall be monument style signs reflecting the stone monuments and walls used at community and neighborhood entries.
- d) Signs shall utilize reflective lettering, and not be illuminated.

Policy 7.12.5 Freestanding Site Signs. Freestanding site signs shall consist of monument style signs. Pole signs are prohibited. Ground-mounted or internal illumination is permitted. Internal illumination, if used, may consist of an opaque background with transparent type, or ‘halo-lit’ letters.

Policy 7.12.6 Village Core Signs. Signs within the Village Core shall be consistent with the Zoning Ordinance requirements for the Downtown Commercial Core.

Policy 7.12.7 Temporary Signs. Temporary signs shall be consistent with the Zoning Ordinance.

Policy 7.12.8 Temporary Marketing Signs. Requirements for temporary marketing signs including number, location, height, duration of placement, and maintenance shall be established as part of the overall Signage Program and Streetscape and Entries Master Plan (see Chapter Eight).

Policy 7.12.9 Regulatory/Traffic Control Signs. Selection, placement and treatment of required regulatory signs shall reinforce the unique character of the community, and be compatible with the designated light standards. Such treatment shall not compromise the safety or long term maintenance requirements of these signs and shall be approved by the City Engineer.

- a) If possible, all poles and supports for traffic signals, traffic control signs,

signal control boxes or other related elements should match the style and/or color selected for street lights.

Policy 7.12.10 Trail Signage. The trail system within the Urban Area shall include durable trail signage identifying trail information such as trail names, routes, distances and special features, conditions or use restrictions. Signs shall be located at staging areas or important points of access to the trail system.

7.13 LIGHTING

Lighting throughout the Plan Area is an important and integral part of the overall community image. In addition to ensuring the safety of residents and users, lighting should serve to reinforce important community elements including the Village Core, North Livermore Avenue, Hartman Road, neighborhood and community parks, and pedestrian pathways.

Policy 7.13.1 General Lighting Requirements. Lighting shall be designed and located to minimize ambient light levels for any given application, consistent with public safety standards.

- a) Lighting should generally occur at intersections, areas of pedestrian activity and building entries, and be minimized elsewhere.
- b) Ornamental pedestrian scale fixtures shall be utilized to the degree possible.
- c) Lighting shall be designed to minimize glare and the direct view of light sources. No lighting shall blink, flash, or be of unusually high intensity or brightness.
- d) Lighting should utilize energy efficient fixtures which provide a balance between energy efficiency and pleasing light color. Low pressure sodium fixtures are prohibited.

Policy 7.13.2 Street Lights. Street lights shall be either ornamental acorn-fixture (Ornamental A), ornamental antique-fixture (Ornamental B), simple single-arm cobra-head (Simple 1) or double-arm cobra head (Simple 2) type poles and fixtures, as indicated by Table 7.7 and Figures 7.65 through 7.70.

- a) **Ownership.** Poles and fixtures shall be owned by the City.

- b) **Color.** The color of light poles and fixtures shall be consistent throughout the community. The color shall be powder-coated 'green-black'. All color-specified metals shall be powder-coated or anodized rather than painted.
- c) **Light Cut-off.** All street lights shall utilize cut-off fixtures to minimize visibility from adjacent areas of the community and public use areas. This is especially critical in hillside areas.
- d) **Village Core.** Street lighting in the Village Core shall consist of ornamental, acorn-fixture street lights flanking the roadway. The street lights shall be located in pairs, 75-100' on center.
- e) **North Livermore Avenue (except in Village Core).** Except in the Village Core, street lighting on North Livermore Avenue shall consist of simple single-arm cobra-head street lights flanking the roadway and ornamental acorn-fixture street lights along the paths. The roadway lights shall be located in pairs, 200' on center and shall be interlaced with pathway lights located in pairs halfway between roadway lights.
- f) **Hartman Road Between Jensen and Park.** Street lighting on Hartman Road between Jensen and Park shall consist of simple, single-arm cobra-head street lights flanking the roadway. The street lights shall be located in pairs, 200' on center.
- g) **Other Arterial Streets.** Street lighting on other arterial streets shall consist of simple, double-arm cobra-head street lights located 200' on center in the median.
- h) **Neighborhood Entries.** Street lighting at neighborhood entries with medians shall consist of ornamental, antique-fixture street lights flanking the roadway. The street lights shall be located in pairs, 160' on center.
- i) **Residential Streets.** Street lighting on connector and local streets in residential neighborhoods shall consist of ornamental, antique-fixture street lights located 160' on center on alternating sides of the roadway.
- j) **Substitution.** Ornamental acorn-fixture street lights may be substituted for simple cobra-head street lights.

Policy 7.13.3 Recreation Area and Athletic Facility Lighting. Athletic field and court lighting shall be planned to minimize illumination of neighboring uses

Table 7.8: Street Lights

Street	Street Light Type	Pole Height	Single or Double Fixture	Spacing and Location (o.c. = on center)
Village Core	Ornamental A	14'	Single	75-100' o.c., both sides
North Livermore Ave (except in Village Core)	Simple, and Ornamental A	32' 14'	Single Single	200' o.c., both sides, 200' o.c., both sides (halfway between Simple street lights)
Hartman Road (btwn Jensen and Las Colinas)	Simple	32'	Single	200' o.c., both sides
Other Arterial Streets	Simple	32'	Double	200' o.c., in median
Neighborhood Entries	Ornamental B	14'	Single	160' o.c., both sides
Residential Streets	Ornamental B	14'	Single	160' o.c., alternating sides

and residential areas and avoid direct view of light sources.

Policy 7.13.4 Parking Lot Lighting. Parking lot lights shall be no higher than necessary to provide efficient lighting of the area, but should not exceed 28 feet for large parking lots, including the base.

- a) Fixture styles and colors shall be compatible with the architectural elements of the site.

Policy 7.13.5 Landscape Lighting. Landscape lighting shall be limited to important landscape areas, entry and sign features or pedestrian use areas:

- a) Light fixtures shall be hidden from direct view unless designed as an integral part of the area. Additionally, the light source shall be shielded from view at

night, with the emphasis on the object or area being lit.

- b) Landscape light fixtures shall be durable and easily maintained. For ease of maintenance, landscape light fixture types and lamps shall be consistent throughout the community.

Policy 7.13.6 Service Areas and Security Lighting. Lights in service areas shall be designed to avoid spillover onto adjacent use areas, and to shield the direct view of the light source. Building mounted fixtures are prohibited unless the light source is completely shielded from view.

- a) Low pressure sodium or other light types which contrast excessively with the normal use area lighting are prohibited.

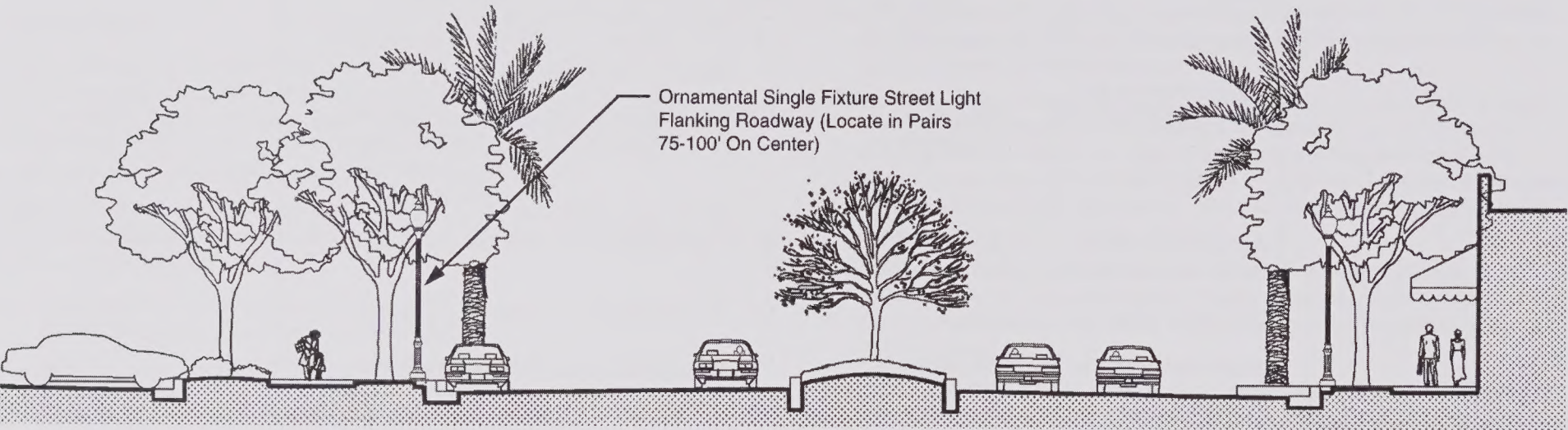


FIGURE 7.65: STREET LIGHTS – VILLAGE CORE

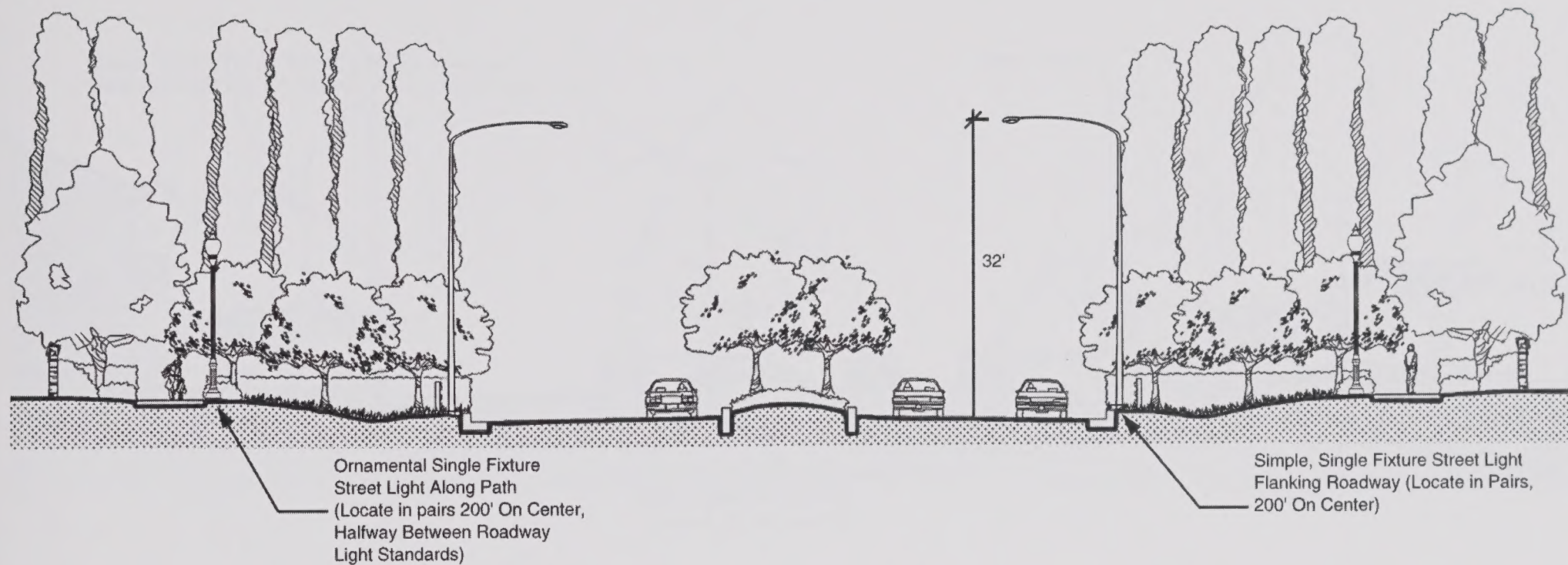


FIGURE 7.66: STREET LIGHTS – NORTH LIVERMORE AVENUE (EXCEPT IN VILLAGE CORE)

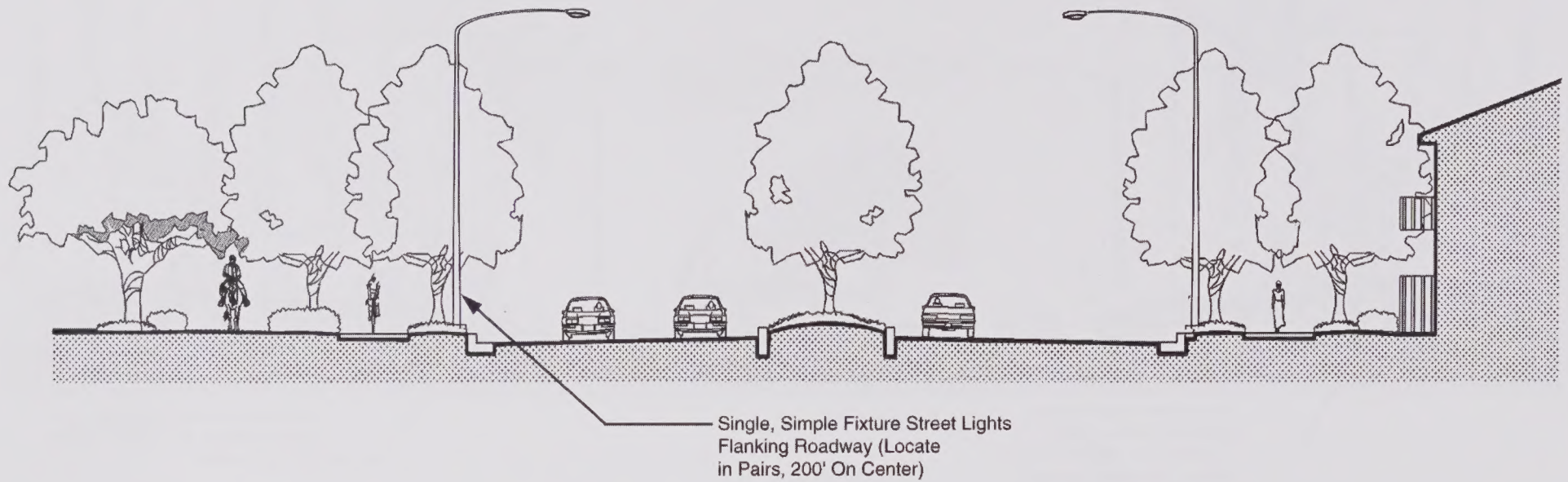


FIGURE 7.67: STREET LIGHTS – HARTMAN ROAD (BETWEEN JENSEN AND LAS COLINAS)

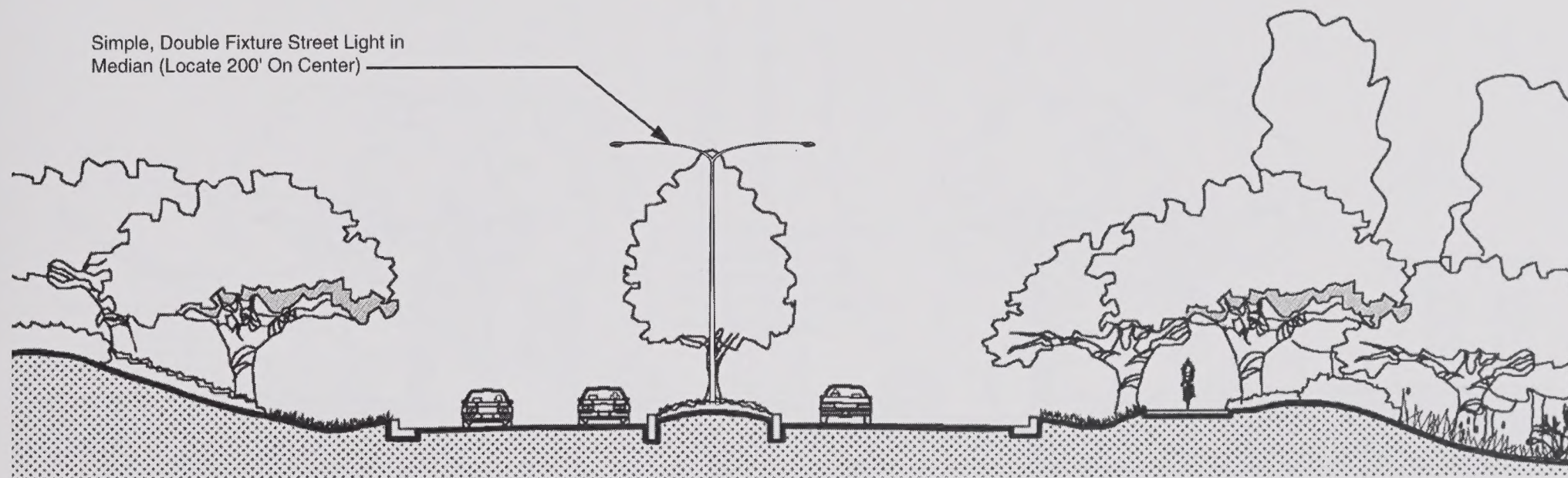


FIGURE 7.68: STREET LIGHTS – OTHER ARTERIAL STREETS

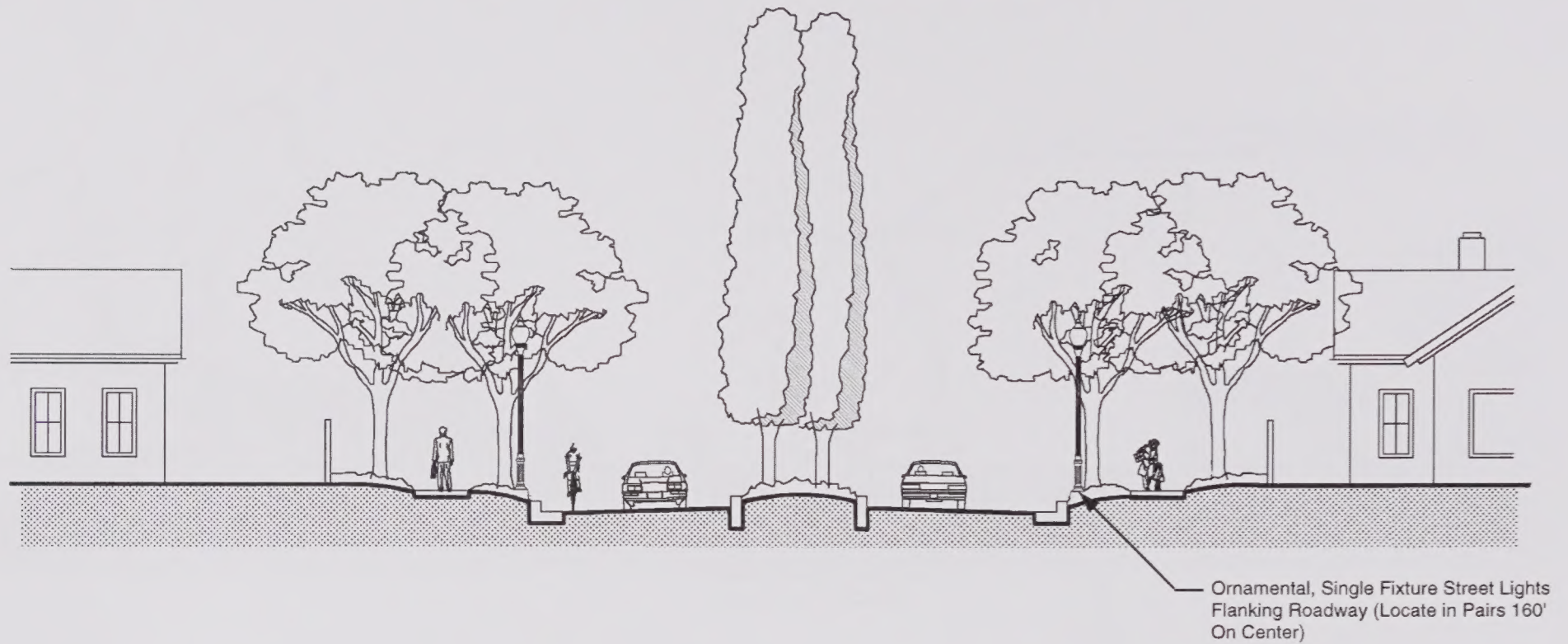


FIGURE 7.69: STREET LIGHTS – NEIGHBORHOOD ENTRIES

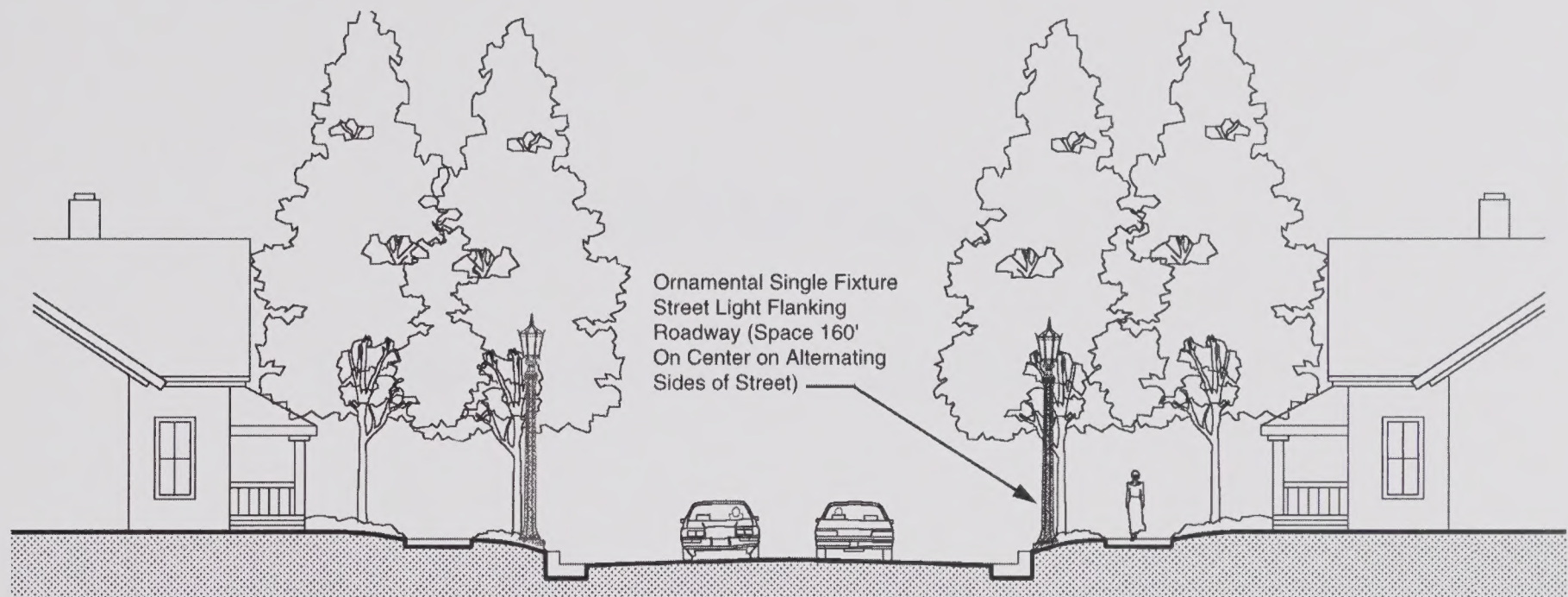


FIGURE 7.70: STREET LIGHTS – RESIDENTIAL STREETS

CHAPTER EIGHT:

URBAN AREA IMPLEMENTATION

INTRODUCTION

This chapter sets forth a variety of implementing steps and regulatory and organizational procedures to implement provisions of this Specific Plan. **Chapter Nine: Phasing** addresses the phasing projected for the twenty-plus year buildout of the Urban Area.

During the preparation of the Specific Plan documents and the approval hearings the County is the Managing Agency and the City is the Cooperating Agency in the preparation and approval of the Specific Plan and its environmental documents (EIR). The respective roles of the Managing Agency and the Cooperating Agency are described in the July 18, 1995 Settlement Agreement between the City, County and two North Livermore landowners, Shea Homes and the Lin Family. Following Specific Plan adoption the City will be responsible for implementation of this Volume II of the Specific Plan, which governs Zone A (the Urban Area) and the I-580 Hills within Zone C (see Figure 1.2), with the County retaining jurisdiction over the planning and use of Zones B and D, and the remainder of Zone C.

The following approval activities will have been completed at such time as this Specific Plan is approved.

- The Final EIR for both the Specific Plan and any necessary General Plan Amendments (see following bullet) will have been certified as adequate, and the findings and mitigation monitoring programs of the EIR adopted by the City and County.
- Conforming City and County General Plan Amendments will have been approved by both the City and County.
- The Specific Plan, including implementation and financing strategies, for both urban and rural portions of the Specific Plan Area, will have been approved by both the City and County.
- A Notice of Determination will have been filed stating that the project EIR has been certified by the City and County and a project approved in reliance thereon.

The sections that follow discuss subsequent activities necessary to facilitate annexation of the Specific Plan Area and the development of individual projects. The first section (8.1: Pre-Annexation Implementation) discusses the City and County activities necessary to allow development to proceed once this Specific Plan is approved through the point where the Urban Area and the I-580 Hills are annexed to the City. The second section (8.2: Community Infrastructure Implementation) discusses the implementation activities necessary to establish the agricultural and open space conservancy and form the financing districts

necessary to implement the infrastructure necessary for development to begin. The third section (8.3: Project Level Implementation) then discusses the steps to be taken as individual projects seek final approvals within the city following annexation. In the event applicants for individual project approvals are not landowners, landowner approval of individual project approval applications and development agreements will be required.

8.1 PRE-ANNEXATION IMPLEMENTATION

The steps indicated in **Table 8.1** are those necessary to prepare the Specific Plan Area for development in the City. The following policies address each of the steps:

Policy 8.1.1 The Financing Program. Pursuant to Government Code Section 65451, the Financing Program included in this Specific Plan (see **Section 8.6**) consists of a program of financing measures necessary to implement the Specific Plan land uses, infrastructure and standards and criteria by which development will proceed. A detailed infrastructure phasing and implementation plan for the Financing Program (the “Infrastructure Phasing and Financing Plan”) shall be prepared and shall include estimates of costs for all public facilities and open space and affordable housing programs; recommend the appropriate public financing mechanism(s) to fund such facilities, acquisitions and programs; and clearly indicate how the Specific Plan will assure all needed infrastructure (see Section 8.6). The Infrastructure Phasing and Financing Plan shall be adopted by the City and the County prior to annexation of the first portion of Zone A and the I-580 Hills to the City. Project-specific financing plans also may be prepared for individual projects pursuant to Policy 8.3.9.

Policy 8.1.2 City/County Agreements. The City and County shall enter into one or more agreements specifying the nature of their on-going relationship in the Specific Plan area. The agreements shall provide for cooperation between the parties to assure implementation of the Specific Plan, and define the role for each party in subsequent planning decisions. They will also address the formation and administration of the North Livermore Conservancy; specify how property tax revenue collected in the Urban Area and I-580 Hills will be allocated between the City and County; and address the provision of police and fire services to unincorporated County lands. These agreements shall be in place before annexation of the first portion of Zone A and the I-580 Hills. These agreements shall also address the need to establish an adequate revenue stream to cover City and County administrative costs relating to the North Livermore Conservancy, as well as a direct assessment on Zone A development to offset ongoing City and County costs relating to Specific Plan implementation over the planning area as a whole.

Policy 8.1.3 School Mitigation Agreements. Landowners will negotiate with the LVJUSD School Mitigation Agreements for the provision of school facilities funding as may be required by LVJUSD in accordance with State law.

Policy 8.1.4 Pre-Annexation Development Agreements. The County, City and landowners will negotiate and enter into pre-annexation development agreements as set forth below. Landowners may authorize developers to conduct negotiations on their behalf.

- a) Landowners and City shall enter into development agreement negotiations and may use development agreements to provide special benefits and commitments which landowners will implement as part of development of the Specific Plan. Subject to the exceptions specified in the agreement, future land use decisions for a property subject to a development agreement will be made according to the laws in effect at the time the agreement is approved. The agreements may follow a common format but shall be customized to address the particular features of the City-landowner relationship.
- b) In order to provide mutual certainty to the City and landowners, development agreements with the City should be approved, executed and recorded prior to an application to the Alameda County Local Agency Formation Commission (LAFCO) for the amendment to the City's Sphere of Influence as set forth in Policy 8.1.6.. Upon approval of the amendment to the City's Sphere of Influence, the development agreement will become effective, and upon annexation to the City the development agreement will become operative. Although these pre-annexation development agreements will provide comprehensive protections to the City and landowners, additional, project-specific City-landowner development agreements may be entered into following the amendment to the City's Sphere of Influence and annexation. These project-specific agreements are further discussed in Section 8.3.6.
- c) Landowners may negotiate development agreements with the County to assure that, subject to the terms and provisions of such agreements, no change in the Specific Plan or the County's other rules, regulations and official policies will apply to the properties covered by those agreements. Such protections will apply to a property subject to a development agreement so long as such property remains unincorporated (i.e., until the annexation of such property to the City), or in the event City does not proceed with implementation of the Specific Plan. In return, the landowners will agree to provide certain benefits to the County.

Table 8.1: Implementing Actions — Through Annexation/Zoning

Action	Responsibilities
Adopt a Financing Plan for all public facilities and improvements **	City and County in consultation with Landowners
Enter into agreement(s) for cooperative Specific Plan implementation **	City and County
Enter into agreement(s) for formation and administration of Conservancy	City and County
Enter into fire and police services agreement(s)	City and County
Enter into a tax sharing agreement**	City and County
Enter into school mitigation agreements**	Landowners and LVJUSD
Negotiate pre-annexation Development Agreements **	City and County and Landowners
Revise the City zoning ordinance to include the zoning designations in Chapter Two of the Specific Plan. Adopt pre-zoning for some or all of the Urban Area and the I-580 Hills. **	City
Apply to LAFCO for an amendment adding the Urban Area and the I-580 Hills to the City's Sphere of Influence	City
Apply to LAFCO to annex the first portion of the Plan Area to the City	City
Annex the first portion of the Plan Area to the City	City and LAFCO
Establish management and financing mechanisms (conservancy, assessment districts, impact fee ordinances, etc.) **	City and County
Place Urban Growth Boundary before the voters for affirmation	City

Actions marked with an ** may move forward and be adopted concurrent with the adoption of the Specific Plan.

Policy 8.1.5 Pre-zoning. This Specific Plan establishes the land uses and development standards that will apply to Zone A and the I-580 Hills following annexation. Following adoption of the Specific Plan and prior to annexation, the City shall (1) revise its Zoning Ordinance and Map to include the zoning districts described below, each of which corresponds to a particular land use designation identified in the Specific Plan and (2) pre-zone Zone A and the I-580 Hills with the appropriate zoning district identified below, which zoning will become “effective” upon annexation of these areas to the City as specified in Cal. Gov’t Code § 65859.

The zoning districts, unless otherwise noted below, shall conform to the provisions of this Specific Plan for all typical zoning provisions. Examples of such provisions include lot size, coverage and parking requirements. Where the City’s current zoning districts are identified as the appropriate zoning district for implementation of the Specific Plan, these zoning districts shall be used as the model for North Livermore zoning. The relationship between the North Livermore zoning districts and the land use designations and intensity of use provisions of Chapters Two and Seven of this Specific Plan is as follows:

Policy 8.1.6 Optional Use of Planned Development Zoning. Following adoption of the Specific Plan, the City will revise Chapter 19.00 of the Zoning Ordinance (“PD Planned Development District”) to permit landowners, as an alternative to the zoning regulations identified above, to apply to the City for rezoning to the PD District. Section 19.04(B) shall be amended to specify that the North Livermore zoning districts shall be utilized for the North Livermore Plan Area where no specific PD District rezoning has been adopted for the site. Such a rezoning may occur where appropriate to address the characteristics of particular properties (e.g., geologic, topographical, environmental features) that may not adequately be addressed under the adopted zoning classifications.

Policy 8.1.7 Sphere of Influence Amendment and Annexation. Prior to the City’s application to LAFCO to include Zone A and the I-580 Hills in the City’s Sphere of Influence (the “Sphere Amendment”), the County and City shall jointly determine which portion of the Specific Plan area will constitute the proposed first annexation. Following this determination, the City shall process an application with LAFCO requesting that Zone A and the I-580 Hills be added to the City’s Sphere of Influence. The City also will process a resolution of annexation and file an annexation application with LAFCO as jointly agreed by the City and County. The Sphere Amendment and annexation applications may be made and considered simultaneously by LAFCO as permitted by the Cortese Local Government Reorganization Act of 1985 (Government Code §§ 56000-57550).

Policy 8.1.8 Urban Growth Boundary Election. Following adoption of this Specific Plan, the Urban Growth Boundary shall be placed on the ballot to be affirmed by the voters of Livermore.

Policy 8.1.9 LAVWMA Participation Election. Following adoption of this Specific Plan the City may consider placing on the ballot the question of its participating in the Livermore Amador Valley Water Management Agency (LAVWMA) expansion project.

Table 8.2: Zoning Classifications

Land Use Designation	Zoning	Land Use Designation	Zoning
RVL Residential —Very Low	NL-RVL North Livermore - Residential - Very Low	GREENBELT Rural Area Greenbelt	OS-A Current City Open Space District
RL Residential – Low	NL-RL North Livermore - Residential - Low	RMA Resource Management Area	OS-A Current City Open Space District
RM Residential - Medium	NL-RM North Livermore - Residential - Medium	ES Elementary School	E Current City Education and Institutions District
RMH Residential - Medium High	NL-RMH North Livermore - Residential - Medium High	MS Middle School	E Current City Education and Institutions District
RH Residential – High	NL-RH North Livermore - Residential - High	HS High School	E Current City Education and Institutions District
VC Village Core - Mixed Use	NL-VC North Livermore - Village Core	I Library, Fire Station, Community Center, Churches, Private Schools	E Current City Education and Institutions District
CS Support Commercial	CS Current City Commercial Services District	CEM Cemetery	OS-A Current City Open Space District
EP Environmental Park	E Current City Education and Institutions District	FCC Federal Communications Commission Monitoring Station	E Current City Education and Institutions District
NP Neighborhood Park	E Current City Education and Institutions District	CR Gun Club	OS-A Current City Open Space District
CP Community Park	E Current City Education and Institutions District		
CC Creek Corridors	OS-F Current City Open Space District		

8.2 COMMUNITY INFRASTRUCTURE IMPLEMENTATION

This section describes the steps necessary to implement the community services and facilities and public infrastructure elements of this Specific Plan (see Chapters 5 and 6). Many of these activities can proceed while the first annexation is being processed. Most, however, will overlap with project level implementation as discussed in Section 8.3.

Included among the actions necessary are those shown in the following table. Each of these actions is further explained in the paragraphs that follow.

Policy 8.2.1 Implement the RCP and Establish the North Livermore Conservancy. Volumes I and III of the Specific Plan spell out the manner in which fees collected from the Zone A developments are to be used to implement the Resource Conservation Program including purchase of land and/or conservation easements in Zones B, C and D. The City and County shall proceed to establish the specific programs and procedures needed to implement the fee program and establish the Conservancy.

Policy 8.2.2 Design The Initial Infrastructure Needed At Year Zero. The City shall prepare, or cause to be prepared, area-wide plans for arterials and water supply, storm drainage and sanitary sewerage infrastructure necessary for development to begin. See Chapter Six.

Policy 8.2.3 Obtain Regulatory Permits For Infrastructure and Urban Development. Regulatory permits needed to allow the project infrastructure and development to proceed may include :

- a) U.S. Army Corps of Engineers Section 404 individual and/or Nationwide permits; Regional Water Quality Control Board water quality certification or waiver and/or issuance of waste discharge requirements; incidental take authorization from the U.S. Fish & Wildlife Service and California Department of Fish and Game; and Section 1603 authorizations from the California Department of Fish and Game.
- b) Environmental clearances and Caltrans approval for Isabel/Hartman and North Livermore Avenue interchanges on Interstate 580.

Policy 8.2.4 Other Implementation Planning. The following implementation planning activities shall also be accomplished as development commences. Unless otherwise specified below this work may overlap with the start of infrastructure and residential construction.

- a) **City Standards and Ordinances.** Prior to issuance of individual project approvals, City standards and ordinances shall be amended as necessary to

incorporate the provisions approved in this Specific Plan. The City shall adopt a Specific Plan Fee Program and require developers of specific projects to reimburse the City and landowners/developers who have funded the preparation of the Specific Plan and EIR. The City also shall adopt development processing fees to fund ongoing planning costs.

- b) **Park Programming and Master Planning.** Park programming shall be developed and a master plan including park design guidelines shall be prepared to direct the implementation of North Livermore parks.

Table 8.3: Implementing Infrastructure and Open Space Protection

Action	Responsibilities / Remarks
Establish the open space and agricultural conservancy necessary to implement the Resource Conservation Program	County and City
Prepare infrastructure plans for area-wide infrastructure	City and Landowners in consultation with County
Obtain regulatory permits necessary to implement the area-wide infrastructure plans	City and Landowners in consultation with County

- c) **Arterial Roads Streetscape and Entries Master Plan.** A master plan shall be prepared for the hardscape and landscape design for all arterial roads, other than North Livermore south of the Village Center, and entries. This plan shall be based on the programmatic design of such facilities included in Chapter 7 of this Specific Plan. The design of North Livermore Avenue south of the Village Center is complete in Chapter 7 and its features shall be reflected in the master plan documents.
- d) **Signage Program.** In conjunction with the Streetscape and Entries Master Plan, a comprehensive signage program shall be developed for North Livermore. This plan shall be consistent with the provisions in Chapter 7 of this specific plan, and shall address sign types, placement, scale, materials, lighting durability and maintenance.
- e) **School District Master Facilities Plan.** The Livermore Valley Joint Unified School District should update its facilities plan to reflect the school sites reserved in this Specific Plan.

8.3 PROJECT LEVEL IMPLEMENTATION SUMMARY

This section provides an overview of the typical procedural steps needed to review and approve tentative subdivision maps and other development applications for projects in the Specific Plan Area. Detailed information implementing the provisions of this section is available from the Livermore Community Development Department. Project applicants also should review City ordinances and procedures applicable to processing development applications. An overview of this section is presented in Table 8.4 and graphically in Figure 8.1.

Policy 8.3.1 Preliminary Planning and Informal Review. Prior to preparing a formal development application submittal, the developer/landowner is encouraged to prepare a pre-application package consisting of a preliminary “sketch” plan and a list of issues to be addressed in any proposed development agreement. The applicant may schedule an informal review of these materials with representatives of the City Community Development Department. This preliminary “sketch” plan should show the proposed first phase of development located within the overall land holding. For the area proposed for the first phase of development this “sketch” plan should be a preliminary version of the anticipated tentative map or other development application. At a minimum the “sketch” plan should show the following:

- The layout of proposed streets, residential lots and non-residential uses.
- An accounting of the parcel density distribution as specified in Table 2.4 of this Specific Plan

Policy 8.3.2 Staff Review of Development Application. In reviewing a development application, City staff shall review the application in accordance with adopted City Ordinances and procedures and provide comments to the applicant in writing. In addition, the City staff shall:

- a) Evaluate the application(s) for consistency with the General Plan and the Specific Plan, and
- b) Evaluate the Specific Plan EIR to determine whether further environmental review is required under CEQA (Public Resources Code Sections 21166, 21083.3. See also CEQA Guidelines Sections 15162-15164, 15182 and 15183).

If aspects of the proposed development applications are found to be inconsistent with the General Plan and/or Specific Plan, staff shall inform the applicant of the inconsistencies and work with the applicant in defining how the proposal might be made consistent with these Plans. If additional environmental review is required under CEQA, the pertinent analyses of impacts which are addressed in the Specific Plan EIR may be incorporated into the appropriate document by reference.

Policy 8.3.3 Master Tentative Maps. Given the size of some of the land holdings, Master Tentative Maps may be filed for larger parcels that are intended for further subdivision at a later date. Such maps shall conform to the following requirements:

- a) Any Master Tentative Map will define a number of “master parcels,” including parcels for major streets, parks, open space and other public purposes. After approval of the Master Tentative Map, the developer may file a master final map (or maps) creating the master parcels.
- b) Concurrently with any Master Tentative Map, the developer may process tentative subdivision maps to further define lots for sale, lease or financing consistent with the Master Tentative Map and the Specific Plan.
- c) Upon filing of a final map creating a master parcel(s) and completion of the public improvements necessary to serve the master parcel(s), City will accept dedication of those public improvements.

Policy 8.3.4 Tentative Subdivision Maps. The subdivision process in the Specific Plan Area shall be governed by the Subdivision Map Act, as well as City standards and procedures.

- a) In the event that a tentative map includes property that extends beyond the Zone A or Phase 1 Specific Plan boundary lands beyond the boundary shall be left as a remainder or established as a separate legal parcel or parcels.
- b) The phasing of development proposed in the Tentative Maps shall be coordinated with the phasing of infrastructure to serve the mapped area.
- c) Landowners and the City should initiate discussion of any project-specific development agreement provisions at or prior to the time the tentative map application is submitted. See Policy 8.3.6.

Policy 8.3.5 Planned Development Plans. Applicants that process a PD development plan pursuant to Policy 8.1.4 shall comply with Chapter 19.00 of the City Zoning Ordinance.

Policy 8.3.6 Project Specific Environmental Requirements. If the project involves alterations to a wetland or other protected area, the applicant may be required to work with the City and environmental agencies in obtaining necessary permits. In this event the landowner shall have the primary responsibility for working with the Department of Fish and Game, the Regional Water Quality Control Board, the US Fish and Wildlife Service, the US Army Corps of Engineers and other agencies in pursuing such permits.

Policy 8.3.7 Project Specific Development Agreements. The City and landowners applying for development approvals (typically at the tentative map application stage) may enter into project specific development agreements. These agreements shall use any applicable “pre-annexation” development agreement as described in Section 8.1.3 as a starting point, but shall further define the rules, regulations and official policies that will govern developments as they proceed through the approval process and construction. These development agreements shall:

- a) specify how the provisions of this Specific Plan will be implemented in connection with the development contemplated by the development agreement;
- b) spell out the precise financial responsibilities of the developer(s);
- c) ensure timely provision of adequate public facilities for each phase of the project;
- d) streamline the development approval process by coordinating various discretionary approvals;
- e) define development phasing in relation to adjacent property; and
- f) provide the terms for credit/reimbursement when a developer advances funding for specific facilities which have community-wide or area benefit.

Policy 8.3.8 Conditions, Covenants, and Restrictions. This Specific Plan encourages the use of Conditions, Covenants and Restrictions (CC&R’s) for private enforcement of the design guidelines of the Specific Plan and for maintenance of landscape and open space areas and the improvements of each development project. All CC&R’s shall reflect the requirements contained in the Specific Plan. In addition, provisions for the design and maintenance of fencing, landscaping, and open space areas and other facilities within projects as well for the abatement of nuisances shall be set forth in the CC&R’s.

Policy 8.3.9 Private Development Design Review. City Design Review Committee approval shall be required for development within Zone A. Generally all private development projects within the City require design review. Public improvements such as landscape area plantings, street and entry signs, lighting, and special paving also require design review.

- a) Design review for production-built single family homes shall occur concurrently with the processing of the tentative subdivision map. Design review for custom (or individual built) single family homes shall occur prior to issuance of the building permit. Design review for commercial, industrial and institutional buildings shall occur concurrent with site plan approvals. Any necessary design review for all public improvements shall occur prior to the second plan check submittal of public improvement plans.
- b) The applicant shall prepare and submit site plans, building elevations, sign plans, lighting plans, landscaping and irrigation plans, fencing plans, and colors and materials for all proposed development within the Specific Plan Area. The Design Review process shall be used to ensure that projects within the Specific Plan Area are consistent with the Community Design provisions of the Specific Plan.

Policy 8.3.10 Final Maps. When all conditions of the Tentative Map are met or secured by posting adequate and appropriate bonds, improvement plans are approved and improvement agreements entered into, a Final Map shall be approved by the City, following the requirements of the Subdivision Map Act as implemented by City procedures. The project shall receive its growth management allocation during the processing of Final Subdivision Maps as described in Section 8.4. Final Maps will be reviewed by the City Engineer and approved by the City Council.

8.4 GROWTH MANAGEMENT UNDER THE SPECIFIC PLAN

Policy 8.4.1 Growth Rate. A growth rate shall be established and implemented in North Livermore according to the following:

- a) The City shall not exceed a three and one-half percent growth rate including North Livermore calculated over a five-year period.
- b) Based on a market survey/study, establish a targeted growth rate for North Livermore of not less than an average of 600 housing units per year, excluding low- and very-low income units.
 - i. This growth rate (600 units per year) shall be the average growth rate for the build-out of up to 12,500 housing units.
 - ii. The growth rate shall be calculated on a five-year basis beginning in the year 2001 (i.e., 2001-2005; 2006-2010; 2011-2015; 2016-2020).
 - iii. Actual growth during any individual year may exceed the 600 units so long as growth allocations over the then current five-year period is not exceeded.
 - iv. At the end of the first five-year period the average rate of 600 units per year shall be re-evaluated and, if warranted, adjusted upward for the next five-year period.
 - v. Low- and very-low income units with permanent resale/rental controls shall be exempt from the growth rate, but not from the maximum number of units (12,500) allowed in the Specific Plan.
- c) Growth over the first five-year period shall not exceed 3,000 units.
 - i. The actual growth during any individual year may exceed 600 units per year so long as growth over the five year period does not exceed 3,000 units. As an example if, due to an initial development start-up period or a period of low housing demand, requests are received for fewer than 600 units per year, allocations in subsequent years are to be increased above 600 units thus allowing construction of up to the 3,000 unit five-year cap.
 - ii. Allocations not used by the end of the five-year period could, up to a maximum of 600 unused allocations, be used anywhere in the City. Such allocations would be subject to conformance with growth management policies in place for the remainder of the City.
- d) Growth allocation shall be made at the final map stage (or site plan approval for projects which do not require subdivision map approvals, (see Chapter Two), following payment of all applicable development fees and assurance of compliance with design guidelines, infrastructure availability and other Specific Plan requirements. The following specific procedures shall apply:
 - i. Allocations shall be made on a first-come-first-served basis at the time of Final Subdivision Map approval for the number of units contained within the map. Allocations will not be made on a final map based on a Master Tentative Map parcelization of the property.
 - ii. Applicants may reserve their allocation at any time following (i) the acceptance for plan check by the Engineering Division of a final subdivision map and (2) payment of \$30,000 per equivalent dwelling unit due at approved final map. The \$30,000 per unit fee shall be equivalent to 1999 dollars and adjusted by the City for inflation based on the San Francisco Bay Area All Urban Consumers, or subsequently adopted, price index. Such payments will be creditable without interest towards fees due at the time of final map approval. The growth allocation will be finalized at the time the map is approved and the remaining fees are paid, where such fees are due. If, at the time of final map approval, the deposit reserving an allocation exceeds the fees which were due upon final map approval because the applicant constructed or bonded for facilities in lieu of paying such fees, the City will refund the applicant for the excess amount without interest.

Table 8.4: Processing a Development Proposal

Action	Responsibilities	Action	Responsibilities
Prepare preliminary development application (including “sketch” plan and list of elements). Identify need for project-specific development agreement.	Landowner	Review submitted materials for conformance with provisions of the Specific Plan and subdivision and engineering standards, and prepare written response identifying areas where the submittal may be in conflict with the Specific Plan.	City Staff
Optional: Request an informal review with City staff.	Landowner		
Prepare and submit development approval applications (e.g., development plan, site plan, tentative subdivision map) and request authorization for project specific development agreements.	Landowner	If the project involves alterations to a wetland or other protected area, the applicant may be required to submit additional information and implement site-specific mitigation measures to satisfy the regulatory requirements.	Landowner, City CDFG, USACOE & USFWS, RWQCB, etc.
If the project is not consistent with the Specific Plan and/or results in impacts not addressed in the Specific Plan EIR, new significant impacts or a substantial increase in the severity of previously identified significant effects, additional project level environmental review may be necessary.	City Staff, Landowner	Project level review by the City Design Review Committee	City Staff Design Review Committee
		Planning Commission review, recommendation or approval, as appropriate	City Staff Planning Commission
		City Council review and approval, as appropriate	City Staff, City Council
		Final Subdivision Map approval and Growth Management Allocation	Landowner submittal, City Staff review and City approval

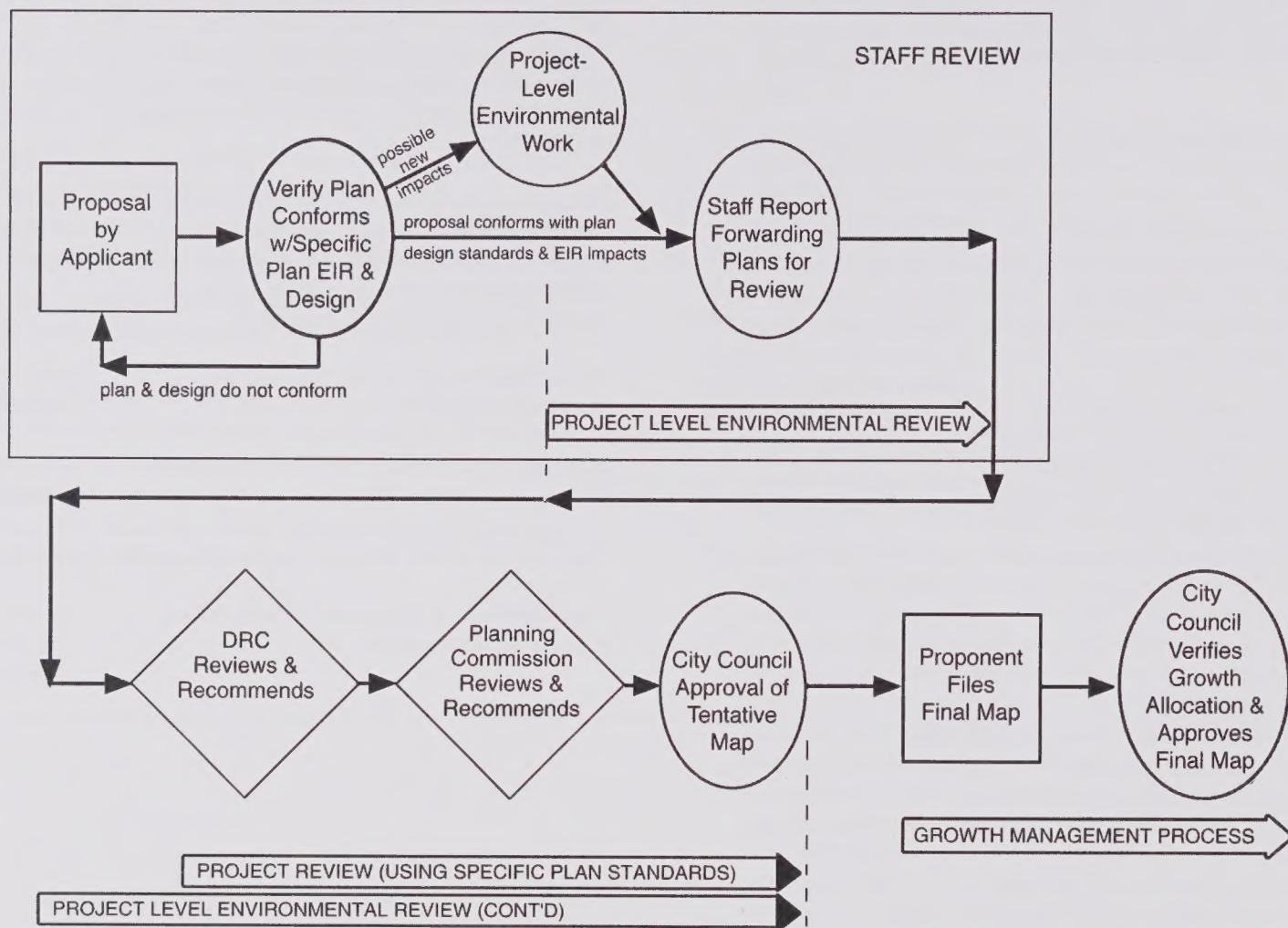


FIGURE 8.1: NORTH LIVERMORE PLANNING AND GROWTH MANAGEMENT PROCESS

8.5 ADMINISTRATION OF THE SPECIFIC PLAN

Policy 8.5.1 Responsibilities for Specific Plan Administration. This Specific Plan shall be used to direct the processing of future development projects within the Specific Plan Area. The County will be the Managing Agency for administering the Specific Plan and implementing development in Zones B and D and a portion of Zone C and the City will be the Managing Agency administering the Specific Plan and implementing development in Zone A and the Zone C I-580 Hills. Given the extended timeframe for development and the probability that multiple developers will be involved, the following responsibilities, mechanisms and procedures will be necessary to review, monitor, coordinate and integrate each specific development.

Policy 8.5.2 Specific Plan Consistency. Following adoption of this Specific Plan, no development plan, site plan, subdivision map, use permit or other entitlement for use shall be approved by the City and no public improvement shall be authorized by the City for construction in the North Livermore Specific Plan Area until a finding has been made that the proposed entitlement or public improvement is in substantial conformance with this Specific Plan. Approval of final development plans, on-site public improvement plans and use permits shall also be consistent with the applicable provisions of the Livermore General Plan. All Specific Plan changes must be consistent with the Livermore General Plan.

Policy 8.5.3 Specific Plan Amendments. Specific Plan amendments may be proposed by a developer or property owner or initiated by the City, and shall be processed in accordance with City ordinances and subject to the requirements of any applicable development agreement. All amendments will be presented in public hearing before City Council action on the proposal. Generally, the process for amending the Specific Plan is similar to that for amending the City's General Plan, with the difference that there is no limitation on the number of Specific Plan amendments that can be approved in any one year. All Specific Plan amendments must be consistent with the City's General Plan. Amendments to the Specific Plan may require an accompanying General Plan Amendment and possibly a Zoning Ordinance revision. Such amendments will be subject to the provisions of the California Environmental Quality Act and thus would have to be reviewed for potential environmental effects. If it is determined that additional environmental impacts, beyond those identified in the Specific Plan EIR, will occur, additional environmental documentation may be required (e.g., subsequent or supplemental EIR, focused EIR, new EIR, or a subsequent/ supplemental mitigated negative declaration). Applicants who process Specific Plan amendments denied by the City must wait two years before resubmitting to modify the same Specific Plan provision, unless the City Council waives the waiting period.

8.6 SPECIFIC PLAN FINANCING PROGRAM

The policies, objectives, and analysis related to the program for funding of public improvements and other capital facility obligations created by the Specific Plan are presented in this section. In addition, an analysis of fiscal impacts on public agencies that will provide services to the Specific Plan area is summarized, and fiscal policies and objectives are delineated.

Policy 8.6.1 Funding and Timing. A North Livermore public Infrastructure Phasing and Financing Plan shall be in place to implement the Financing Program and to ensure that all required public improvements are adequately funded and provided in a timely manner, and that adequate land and right-of-way is dedicated or obtained for public use when needed. The Infrastructure Phasing and Financing Plan may be adopted as soon as the Specific Plan is approved, but shall be adopted prior to annexation.

Applicants for future development projects will be responsible for funding all new capital improvements required to serve individual projects unless other sources of funding are appropriate and available. Future developers will also pay the costs of mitigating their proportionate share of impacts on existing facilities, whether such facilities are located inside or outside the City.

Basic infrastructure that provides area-wide backbone facilities to serve multiple project areas (e.g., water treatment facilities and sewer facilities identified in Chapter 6, and major arterial roads) may be financed and constructed by either the City or landowners. Project infrastructure that serves a limited development area (e.g., local roads) will generally be financed and constructed by landowners. Public facilities of City-wide benefit, such as a library, will generally be constructed by the City, although the City may allow landowners to construct such facilities pursuant to City standards.

The North Livermore development will require extensive public lands for an array of community facilities ranging from creek corridors to schools. The land for these improvements will need to be acquired by various public agencies, including the City and local school districts. These public lands may be acquired through land dedication, purchase, or, if necessary, eminent domain proceedings. Each landowner shall contribute its fair share of the public lands required to provide the services and infrastructure needed to satisfy policies and implementation measures of the Specific Plan and the mitigation measures of the associated environmental document.

The City will adopt the necessary legal documents to establish the terms, amounts, and procedures of a public land equity program prior to the approval of the first development permit (a land equity program). The City, using the approved Specific Plan land use designations, will determine the estimated percentage of the total useable land within the North Livermore community that is projected to become public land. City approval of tentative maps will be conditioned upon compliance with the land equity program. The City will administer a land equity program, including: 1) working with landowners to determine the method of compliance (e.g., land dedication, exchange, payment of in-lieu fees); 2) facilitating dedications, exchanges, and purchases; 3) collecting fees and/or issuing credits; and 4) purchasing and selling public lands.

Policy 8.6.2 Cost Allocation and Facility Oversizing. The cost of public improvements shall be allocated to all benefiting properties and, to the extent a landowner/developer is required to pay for facility oversizing, reimbursement mechanisms shall be utilized to maintain equity among all benefiting property owners.

A fair share cost allocation will be established for all new development that benefits from required infrastructure. These allocated costs should be covered either by direct construction and dedication, "in kind" contributions, and/or participation in financing programs. Fair share cost allocations for on-site and off-site facilities will be based on net costs after accounting for State, federal, and regional funding that may be secured.

The area of benefit for specific improvements may be extended beyond the boundaries of Phase 1 or even the entire Specific Plan, if necessary, to fairly distribute the burden of regional improvements. Benefit districts, other financing districts, reimbursement agreements, and other mechanisms may be implemented to ensure that landowners/developers who choose not to participate in the full range of financial mechanisms applicable to the entire Specific Plan, Phase 1, or only a portion of Phase 1 will still fund their fair share of all planned facilities, programs, and other applicable costs.

Policy 8.6.3 Public Financing. Public financing shall be equitable, financially feasible, and consistent with City guidelines, policies, and existing fee programs.

Development fees will be an important component of the North Livermore public Financing Plan. Fee revenue will be utilized to the maximum extent possible to minimize costs associated with the issuance of debt. The City will adopt a fee ordinance and collect fees as part of its development approval process. Impact fees imposed in North Livermore will fall into one of the following three general programs:

- a) *Existing City Fee Programs*
 - i. Wastewater treatment, conveyance, and disposal
 - ii. Traffic Impact Fees for highway interchange improvements, roadway expansions and extensions, and possibly contribute toward the cost of a BART extension
 - iii. General government and police station facilities
- b) *Existing Fee Programs Outside the City*
 - i. Livermore Valley Joint Unified School District
 - ii. Tri-Valley transportation
 - iii. County Zone 7 water connection
 - iv. County Zone 7 storm drainage
- c) *Other Sources of Funds Available Through Development Agreements or New Development Impact Fee Programs Specific to North Livermore*
 - i.. Open space
 - ii. Affordable housing
 - iii. On-site potable and reclaimed water
 - iv. On-site wastewater collection
 - v. On-site transportation
 - vi. On-site storm drainage
 - vii. Park and creek corridor
 - viii. Fire station
 - ix. Library
 - x. North Livermore planning costs

When public financing districts are formed, bond proceeds shall be efficiently utilized, subject to a combination of benefit, marketing, and public policy criteria. Some form of land-secured debt financing is proposed to fund a significant portion of the capital improvements and infrastructure obligations. The analysis conducted for North Livermore assumes that a Community Facilities District (CFD) will be implemented. The Mello-Roos Community Facilities Act [Section 53311 et. seq. of the Government Code] permits cities, counties, and special districts to create defined areas within their jurisdiction and, by a two-thirds vote within the defined area, to impose special taxes to pay for the public improvements and services needed to serve that area. The City shall adopt the necessary legal documents to create and implement a CFD or comparable financing district. The City shall also be responsible for administering the CFD; this responsibility shall be defined in the CFD documents.

The CFD shall issue debt only as necessary to provide financing for public facilities that cannot be funded through dedications and reasonable fee structures. The CFD may also use special tax revenues, if necessary, to fund authorized public services. The allowed debt burden and maximum special tax rates shall be limited as defined by City policies.

SPECIFIC PLAN ANALYSIS

An analysis of the financial feasibility of the Specific Plan summarized total project costs and determined the mix of costs that would be fee-funded and/or debt-financed based upon information available at the time of Specific Plan preparation. This resulted in estimates of per-unit impact fees for fee-funded obligations and annual special taxes for debt-financed obligations. The analysis represents one plausible scenario, but many different combinations of funding mechanisms could ultimately be utilized and may be adjusted based upon changes in cost estimates, fees and the timing of implementation of Specific Plan development.

Total on-site, project-specific infrastructure costs are approximately \$257 million. Total costs, including City and non-City fees, amount to \$709 million. Land costs are not included in these numbers because, as described above, a public land equity program will be implemented that allocates land for public facilities to each landowner. Public lands include school sites and, since landowners will be contributing land for schools through the land equity program, the portion of the school fee that relates to land costs is deducted from the total school fee to determine a net fee for schools. A summary of estimated North Livermore public facility costs and fees based upon available information is provided in Table 8.5.

**Table 8.5: Specific Plan, Zone A
Total Estimated Public Facility Costs and Fees**

Public Facility	Total Cost	% of Total
Project-Specific Infrastructure		
Potable and Reclaimed Water	\$39,269,000	5.6%
Wastewater Collection	\$6,859,000	1.0%
Transportation	\$110,397,000	15.6%
Storm Drainage	\$21,453,000	3.0%
Park and Creek Corridor	\$63,141,000	8.9%
Fire Stations	\$3,386,000	0.5%
Library	\$9,387,000	1.3%
Planning	\$3,500,000	0.5%
<i>Subtotal</i>	\$257,392,000	36.4%
Project-Specific Fees		
Open Space (Resource Conservation)	\$50,603,000	7.1%
Affordable Housing	\$50,603,000	7.1%
<i>Subtotal</i>	\$101,205,000	14.2%
City Fee Program		
Wastewater Treatment, Collection, and Disposal	\$107,770,000	15.2%
Transportation Impact Fee	\$39,081,000	5.5%
General Government and Police Facilities	\$7,217,000	1.0%
<i>Subtotal</i>	\$154,067,000	21.7%
Other Fee Programs		
Livermore JUSD	\$109,973,000	15.5%
Tri-Valley Transportation	\$20,769,000	2.9%
Zone 7 Water	\$57,594,000	8.1%
Zone 7 Storm Drainage	\$8,239,000	1.2%
<i>Subtotal</i>	\$196,575,000	27.7%
Total	\$709,239,000	100.0%

These costs are allocated to each land use designation based on the quantity of land within the designation and the benefit derived from each capital facility. Total burdens for North Livermore, assuming no debt-financing, are expressed in Table 8.6 below.

A significant portion of the total infrastructure costs and fees, and the related burdens, must be debt-financed due to the size and phasing of certain infrastructure components. For example, water storage and distribution facilities, portions of the sanitary sewer system, and segments of the road network must be constructed prior to any development, and fee revenues will not be available to fund these facilities. The estimated bonding capacity of the Specific Plan at buildout was tested using various assumptions. For analysis purposes, a debt-financing scenario was selected that involves a 7% interest rate, 25-year term, two years of capitalized interest, and an annual special tax or assessment equal to 0.75% of assessed value. Two years of capitalized interest would fund the first two years of debt service on the bonds and allow the project to generate development cash flow prior to debt service payments coming due. An annual burden of 0.75%, or approximately \$2,700 for a typical single family medium density residential unit, appears to be competitive and marketable relative to annual burdens for other development projects in the regional marketplace. Based

**Table 8.6: Specific Plan, Zone A -
Total Public Facility Costs and Fees per Unit or Acre**

Land Use	Total Burden
Residential	
Very Low Density	\$80,100/ unit
Low Density	\$64,900/ unit
Medium Density	\$58,600/ unit
Medium-High Density	\$48,200/ unit
High Density	\$38,300/ unit
Commercial	
Retail (Village Core)	\$532,500/ acre
Support Commercial	\$636,500/ acre
Office & Service (Village Core)	\$273,800/ acre

on these assumptions, \$248 million could be debt-financed using a land-secured funding mechanism as shown in Table 8.7 below. Of the total capital facility and fee obligation for North Livermore, approximately 65% is projected to be fee-funded.

Funding 35% of total capital facility costs and fees using a CFD would reduce the total one-time burdens shown above by 35%, bringing the total fee burden down to \$38,113 for a single family medium density residential unit. The same residential unit would have a total annual burden of approximately \$2,900, which includes \$2,700 for capital facilities and \$200 for public services such as landscape maintenance, services that are typically funded through a public financing mechanism established with new development. Based on an estimated value of \$362,000 per unit, these single family medium density homes appear to be profitable and marketable, indicating that the Specific Plan is a financially feasible project.

In summary, the required infrastructure and public services needed to implement the Specific Plan can be financed with a variety of funding mechanisms, including Mello-Roos bonds and various impact fees. The associated burdens on new development are projected to be within industry standards of acceptability.

Table 8.7: Specific Plan - Anticipated Sources of Funding

Funding Mechanism	Total Amount	% of Total
Land-Secured Financing	\$248,237,000	35.0%
Project-Specific Fees	\$110,360,000	15.6%
City Fees	\$154,067,000	21.7%
Other Non-City Fees	\$196,575,000	27.7%
Total	\$709,239,000	100.0%

PHASE 1 ANALYSIS

Phase 1 of the Specific Plan is assumed to include approximately 4,500 residential units developed over a period of seven years. Rather than conduct a cursory bond capacity analysis based simply on build out of Phase 1, the financing analysis for Phase 1 is a detailed analysis based on engineering estimates regarding the required phasing of capital facilities and the same financing assumptions used for the entire Specific Plan. Due to the development horizon associated with the entire Specific Plan and the high probability that changes will occur during that timeframe, the Financing Program does not include a detailed debt financing analysis beyond Phase 1. Nonetheless, the analysis of Phase 1 is generally representative of the entire Specific Plan and actually represents a worst case analysis since later phases could incrementally expand existing infrastructure constructed in Phase 1. The preliminary debt financing analysis conducted for the entire Specific Plan appears to be a good approximation based on the detailed financing analysis conducted for Phase 1. The detailed financing analysis for the 4,500 units in Phase 1 indicates that \$94 million in capital facilities funded through land-secured debt could be supported; the preliminary financing analysis for up to 12,500 units in the entire Specific Plan suggests that \$248 million could be supported. Phase 1 represents 36% of the total units in the Specific Plan, and \$94 million in Phase 1 accounts for 38% of the \$248 million that is estimated to be debt-financed for the entire Specific Plan; 36% of the units accounting for 38% of the costs indicates a strong relationship between the bond capacity analysis of Phase 1 and that of the Specific Plan.

The Phase 1 debt financing analysis revealed that all capital facilities required prior to development could not be bond-funded because the value of the land must exceed the amount of bonds by a ratio of least 3-to-1. Capital facilities could be financed in several ways, including developer based short-term financing. As an alternative, it may be possible to have landowners with land both inside and outside Phase 1 include approximately 340 acres outside Phase 1 as additional collateral or short term financing for the bonds without subjecting that land to special taxes or assessments, thereby allowing the issuance of debt required to fund facilities needed prior to development. It is estimated that this extra collateral would not be needed after the first year, since new development inside Phase 1 would increase the value to an amount sufficient to maintain a minimum 3-to-1 value-to-lien ratio. The phasing of capital facilities required to serve Phase 1 is presented in Table 8.8 below, which shows that over half of the infrastructure is required before even one quarter of the proposed development occurs and over 90% of the infrastructure is required three years before Phase 1 development is complete.

Table 8.8: Phase 1 - Estimated Infrastructure Phasing

Year of Development	Project-Specific Infrastructure
0 (Prior to Development)	\$31,471,600
1	\$10,192,500
2	\$13,647,500
3	\$14,200,000
4	\$14,369,000
5	\$15,370,700
6	\$9,429,600
7	\$175,800
8	\$176,000
Total	\$109,032,900

When project-specific fees, other City fees, and impact fees related to other agencies are added, total public facility costs and fees for Phase 1 of the Specific Plan amount to \$270 million. As noted above, approximately \$94 million of this total cost can be debt-financed, leaving \$176 million in costs funded through impact fees. Total impact fees for Phase 1 by land use designation, net of costs that are debt-financed, are presented in Table 8.9 below.

As Table 8.9 identifies, a typical single family medium density residential unit in Phase 1 has an impact fee obligation of \$41,424, which is approximately 9% higher than the \$38,113 average impact fee obligation for a medium density unit for the entire Specific Plan area. While the one-time and annual per-unit burdens created by the required Phase 1 infrastructure can be feasibly supported by the proposed new Phase 1 development, the higher impact fee obligation points out the need for reimbursement mechanisms as described under Policy 8.6.2.

The overall cost burden (one-time impacts fees and annual special taxes) for Phase 1 is not significantly different from the Specific Plan as a whole. The overall burden is within an acceptable range for typical development projects, and should allow for a feasible profit margin even without reimbursements for oversized facilities associated with Phase 1.

Table 8.9: Phase 1 - Estimated Total Impact Fees after Debt Financing

Land Use	Total Impact Fees
Residential	
Very Low Density	\$60,083 / unit
Low Density	\$46,794 / unit
Medium Density	\$41,424 / unit
Medium-High Density	\$35,142 / unit
High Density	\$26,547 / unit
Commercial	
Retail (Village Core)	\$264,723 / acre
Support Commercial	\$297,906 / acre
Office & Service (Village Core)	\$66,731 / acre

Policy 8.6.4 Fiscal Impacts. Annual public service costs and revenues generated by North Livermore shall be managed to maintain a positive fiscal impact on affected public agencies.

Fiscal impacts are the annual, or recurring, revenues and expenses that affect primarily a public agency's general fund as a result of development in North Livermore. Annual fiscal impacts are estimated assuming that the North Livermore project has been annexed into the City. Therefore, impacts on three public agencies have been accounted for: 1) the City of Livermore, which will provide the majority of municipal services, including neighborhood park maintenance; 2) the County of Alameda, which will provide County-wide services that apply to incorporated as well as unincorporated areas; and 3) the Livermore Area Recreation and Park District (LARPD), which will provide recreation program and park maintenance services related to the community park in North Livermore. For each public agency, development in North Livermore will result in projected revenues that exceed the costs of meeting estimated demands for services each year during development as well as each year after the project is completely built out.

Recurring revenues and expenses for each affected public agency that is impacted by new growth in North Livermore are listed in Tables 8.10 through 8.12 below.

Table 8.10: City of Livermore - Fiscal Revenues and Expenses

Recurring Revenues	Recurring Expenses
Property Tax: Secured and Unsecured	Police Service
Sales & Use Tax and Prop 172 Sales Tax	Fire Protection
Real Property Transfer Tax	Building Inspection
Licenses and Permits	Street Maintenance
Charges for Current Services	General Government Administration
Dwelling and Industrial Construction License Tax	Other General Government(e.g., Planning)
EMT Service Area and Supplemental Assessment	Neighborhood Park & Creek Corridor Maintenance
Franchise Tax	Building Inspection
Fines and Forfeitures	Public Services and Engineering
State Motor Vehicle In-Lieu	
Business License Tax	
Transient Occupancy Tax	
Other City Revenues	
Earnings on Investment	

Table 8.11: County of Alameda - Fiscal Revenues and Expenses

Recurring Revenues	Recurring Expenses
Property Tax: Secured and Unsecured	Public Protection (e.g., Courts, Jails)
Sales & Use Tax and Prop 172 Sales Tax	Public Assistance (e.g., Social Services)
Motor Vehicle In-Lieu	Health Services
Earnings on Investment	General Government

Table 8.12: Livermore Area Recreation and Park District - Fiscal Revenues and Expenses

Recurring Revenues	Recurring Expenses
Property Tax: Secured and Unsecured	Recreation Services
Supplemental Assessments (Special Tax)	Park Maintenance Administration

SPECIFIC PLAN ANALYSIS

As shown in Table 8.13 below, North Livermore is projected to generate \$14.8 million in annual fiscal revenues to the City at buildout, compared to \$12.2 million in annual fiscal expenses. Fully developed, the Specific Plan area is estimated to provide a net fiscal surplus to the City of approximately \$2.6 million annually. Nearly 75% of total revenues come from property taxes and sales taxes, while police service and fire protection expenses represent 56% of total expenses.

The Specific Plan area is anticipated to produce substantial fiscal surpluses to the County and LARPD, as Table 8.13 also illustrates. Fiscal revenues of \$10.2 million accrued by the County offset fiscal expenses of \$6.5 million incurred by the County, resulting in a net fiscal impact to the County of \$3.7 million annually. Similarly, LARPD fiscal revenues of \$3.5 million exceed fiscal expenses of \$1.5 million; LARPD is expected to experience annual fiscal surpluses of \$2.0 million due to development in North Livermore.

Table 8.13: Specific Plan Buildout - Summary of Annual Fiscal Impacts

Fiscal Impacts	City of Livermore	Alameda County	LARPD
Total Revenues	\$14,843,200	\$10,209,400	\$3,510,100
Total Expenses	\$12,190,500	\$6,545,100	\$1,484,200
Net Fiscal Impact	\$2,652,700	\$3,664,400	\$2,025,900

PHASE 1 ANALYSIS

The fiscal analysis conducted for the entire Specific Plan also indicates what the annual revenue and expense impacts created by development of Phase 1 will be. Public revenues are anticipated to exceed public service costs each year of development, including the first few years of initial development. At the conclusion of Phase 1, each affected public agency will likely experience fiscal impacts as shown in Table 8.14 below.

Policy 8.6.5 Financing Plan Updates. Updates to the Financing Plan shall occur in future years as infrastructure costs, land uses, and funding strategies are further refined or updated. With each update, adherence to Financing Plan principles and policies will be maintained. It is important to establish an administration and monitoring process to ensure policies are being implemented, to provide information for development conditions of approval, and to enable adjustments to plans as necessary to deal with changing conditions. Updates shall be conducted at the times and in the manner prescribed by the City.

Table 8.14: Specific Plan Phase 1 - Summary of Annual Fiscal Impacts

Fiscal Impacts	City of Livermore	Alameda County	LARPD
Total Revenues	\$7,883,700	\$3,761,600	\$1,091,000
Total Expenses	\$6,197,600	\$2,625,300	\$327,000
Net Fiscal Impact	\$1,686,100	\$1,136,300	\$763,900

CHAPTER NINE:

PHASING

INTRODUCTION

North Livermore is expected to be developed over a 20 to 30-year timeframe. This chapter presents information on the phasing of development within the Urban Area. All provisions described in previous chapters are applicable to each phase of development.

For a description of specific infrastructure and services requirements see Chapter Three: Transportation and Circulation, Chapter Five: Community Services and Facilities, and Chapter Six: Infrastructure. For a summary of Phase 1 costs and financing, see Chapter Eight: Implementation.

GOALS

- A. Provide for compact development that will support the efficient use of infrastructure and public services, including schools and emergency services.**
- B. Encourage the early establishment of a viable Village Core, including civic and commercial uses.**

9.1 GENERAL

Policy 9.1.1 Overall Phasing Requirements. Phasing of development shall be contingent upon availability of infrastructure, participation in all Plan Area programs, conformance with the Growth Management Program for the area, and support of other plan goals.

Policy 9.1.2 Subsequent Phases. Subsequent development beyond Phase 1 shall be subject to the following requirements:

- a) Development shall be contiguous with existing development, or located adjacent to existing infrastructure.
- b) Planning for subsequent phases shall begin when Final Maps have been approved for 2,500 of the total units in Phase 1. The first step shall be to identify the boundary of Phase 2.
- c) No residential units in subsequent phases shall proceed prior to approval of Final Maps for 3,200 Phase 1 units.
- d) Development shall provide all required infrastructure necessary to support development within the phase.
- e) Priority for subsequent phases shall be given to development projects which implement major community facilities including community parks, creek corridors, environmental park, village core development or similar uses.

Policy 9.1.3 North Livermore Avenue. North Livermore Avenue shall be the primary vehicular and visual access to the project and shall serve as the backbone for Phase 1 infrastructure.

9.2 PHASE 1 LAND USE

The Phase 1 Area includes residential areas that would, if built out entirely, result in a total of approximately 5,900 homes. However, the Phase 1 Area includes more higher density attached housing than is expected to be absorbed within the Phase 1 timeframe. Therefore, the residential program for Phase 1 is expected to be approximately 4,500 homes, of which approximately 460 are higher density units. The remaining units are expected to be proportionally absorbed during subsequent buildout of the project. As part of Phase 1 development, it is expected that approximately 3,000 acres within the overall Plan Area will be protected under the North Livermore Open Space Program.

Policy 9.2.1 Phase 1 Area. Phase 1 shall be defined as a compact, relatively concentric area to allow schools and emergency services to be established close to homes.

Policy 9.2.2 Phase 1 Development. Phase 1 development shall be defined by Figure 9.1: Phase 1 Plan and shall include the land uses described in Table 9.1: Phase 1 Land Use Program and Table 9.2: Phase 1 Program by Parcel.

Policy 9.2.3 Phase 1 Residential Units. Phase 1 shall be limited to 4,500 units.

9.3 PHASE 1 INFRASTRUCTURE

Policy 9.3.1 Phase 1 Infrastructure. Phase 1 development of roads and systems for potable water, wastewater, and storm drainage shall generally be consistent with Figures 9.2-9.5. Interim facilities may be required to support Phase 1 development pending completion of major increments of infrastructure Development.

Policy 9.3.2 Timing of Improvements. All infrastructure and services necessary to support development within Phase 1 shall be available prior to completion of that development.

Policy 9.3.3 Dublin Boulevard Expansion. The Dublin Boulevard/North Canyons Parkway extension shall ultimately be a six (6) lane road in order to accommodate anticipated traffic levels, but improvements to this road may be phased over time to meet acceptable LOS Criteria. Four (4) lanes are required by year 2007 and shall be implemented according to the following:

- a) The ultimate improvement of Dublin Boulevard as a 6-lane road from Doolan Road to Fallon Road is expected to be completed by a combination of City of Livermore and City of Dublin traffic impact fee program improvements. However, the timing of this construction is uncertain.
- b) If the City of Livermore or the City of Dublin do not implement their respective share of planned improvements to Dublin Boulevard prior to the mid-point of construction of Phase 1 (2,250 units), Phase 1 development shall be responsible for constructing a 4-lane extension of Dublin Boulevard/ North Canyons Parkway from Fallon Road to Doolan Road. The costs of construction of any portion of this road may be credited against required traffic impact fees.

Policy 9.3.4 Phase 1, North Livermore Avenue Interchange Improvements.

The first phase of North Livermore Avenue interchange improvements (including the westbound loop on-ramp and 6-lanes on North Livermore Avenue) shall be constructed concurrent with Phase 1 development.

- a) The costs of these improvements shall be counted as a credit against City of Livermore Traffic Impact Fees.
- b) The timing for construction of this interim improvement shall be as required to maintain acceptable LOS E conditions.

Policy 9.3.5 Timing of Fire Service Construction. Fire Station and fire equipment access route construction shall meet the following standards:

- a) Fire Station #10 shall be constructed and manned and an all-weather access road from this station to North Livermore Avenue shall be in place prior to occupancy of the first Specific Plan residential unit. As an alternative, with City approval, a temporary fire station may be constructed and manned along North Livermore Avenue within the area. Developers will be required to pay the staffing costs of any temporary facility occasioned by the premature manning of such a station.
- b) An all-weather connection from the Project Area to provide a direct east/west access from Station #7 (Scenic Avenue) to development areas within the Specific Plan shall be constructed by the time of occupancy of the 1,500th residential unit. This vehicular connection can be provided either by constructing Waterman Drive and connecting roadways or as a temporary connection along an existing unpaved alignment.

- c) The Village Center fire station, or a temporary fire station located south of the Village Center within 500 feet of North Livermore Avenue, shall be constructed and manned prior to the occupancy of the 3,000th residential unit. Developers will be required to pay the staffing costs of any temporary facility occasioned by the premature manning of such a station.

Table 9.1: Phase 1 Land Use Program

Land Use	Acres	Units	Comments
Residential			
RL	157	558	
RM	420	2,529	
RMH	120	951	
RH	24	462	
Subtotal	721	4,500	
Village Core Mixed Use			
Retail/Office/Civic/Inst.	22		
Schools			
Elem. (2)	16		
Middle (1)	20		
High (1)	48		
Parks			
Neighborhood	34		
Community	42		
Village Commons	2		
Open Space			
Creek Corridors	145		
Environmental Park	94		
Other Uses			
FCC	47		
TOTALS	1,191	4,500	

Table 9.2 Phase One Land Use by Parcel

REFERENCE NUMBER		3	4	5	6	7	8	9	10	11	12	13	14	15	18		
LAND USE																	
RESIDENTIAL (1) (2)																	
Low	du						50	15	18	17	58	9	31	3			
Medium	du	42	539	133	5	305	123				182				231		
Medium High	du	174		138		142	160										
High	du	349		256		126	72							234			
Village Core High	du	124	147														
PARCEL TOTALS	du	689	686	527	5	573	405	15	18	17	240	9	31	237	231		
VILLAGE CORE MIXED USE (3)																	
Retail/Office/Civic/Inst.	ac	6.0															
SCHOOLS (3)																	
Elem. School	ac		8.0														
Middle School	ac					10.0	10.0										
High School	ac																
PARKS and OPEN SPACE (3)																	
Neighborhood Park	ac	1.3	1.9	0.8		10.0	5.0				2.0						
Community Park	ac																
Village Commons	ac																
Creeks	ac	9.1	9.5			8.4	14.7					0.1					
Environmental Park	ac																
OTHER USES																	
FCC	ac																

REFERENCE NUMBER		27	28	28A	29	30	31	32	33	34	36	83	90	143	145	146	Totals
LAND USE																	
RESIDENTIAL (1) (2)																	
Low	du	2			4		167	28		56	13	53	34				558
Medium	du	85	576	49	64	120	39	36									2,529
Medium High	du		145			111						81					951
High	du		119			47											1,203
Village Core High	du		355														626
PARCEL TOTALS	du	87	1,195	49	68	278	206	64	0	56	13	134	34	0	0	0	5,867
VILLAGE CORE MIXED USE (3)																	
Retail/Office/Civic/Inst.	ac		16.0														22
SCHOOLS (3)																	
Elem. School	ac		0.9			7.1											16
Middle School	ac																20
High School	ac													36.7	8.7	2.6	48
PARKS and OPEN SPACE																	
Neighborhood Park	ac		9.4			1.0	2.4										34
Community Park	ac		6.2		1.0	7.3		5.1						11.4	11.2		42
Village Commons	ac		2.0														2
Creeks	ac				4.8	0.3		6.1	6.3	8.6		10.6	5.5		1.0		145
Environmental Park	ac				2.4			84.1	7.2	0.2							94
OTHER USES																	
FCC	ac							46.9									47

Notes: (1) Residential units shown are the total potential units within Phase 1 boundary for each parcel. Maximum units which can be built within Phase 1 is 4,500.
(2) Residential use areas include local and connector street ROW.
(3) Public and Village Core use areas exclude local and connector street ROW.

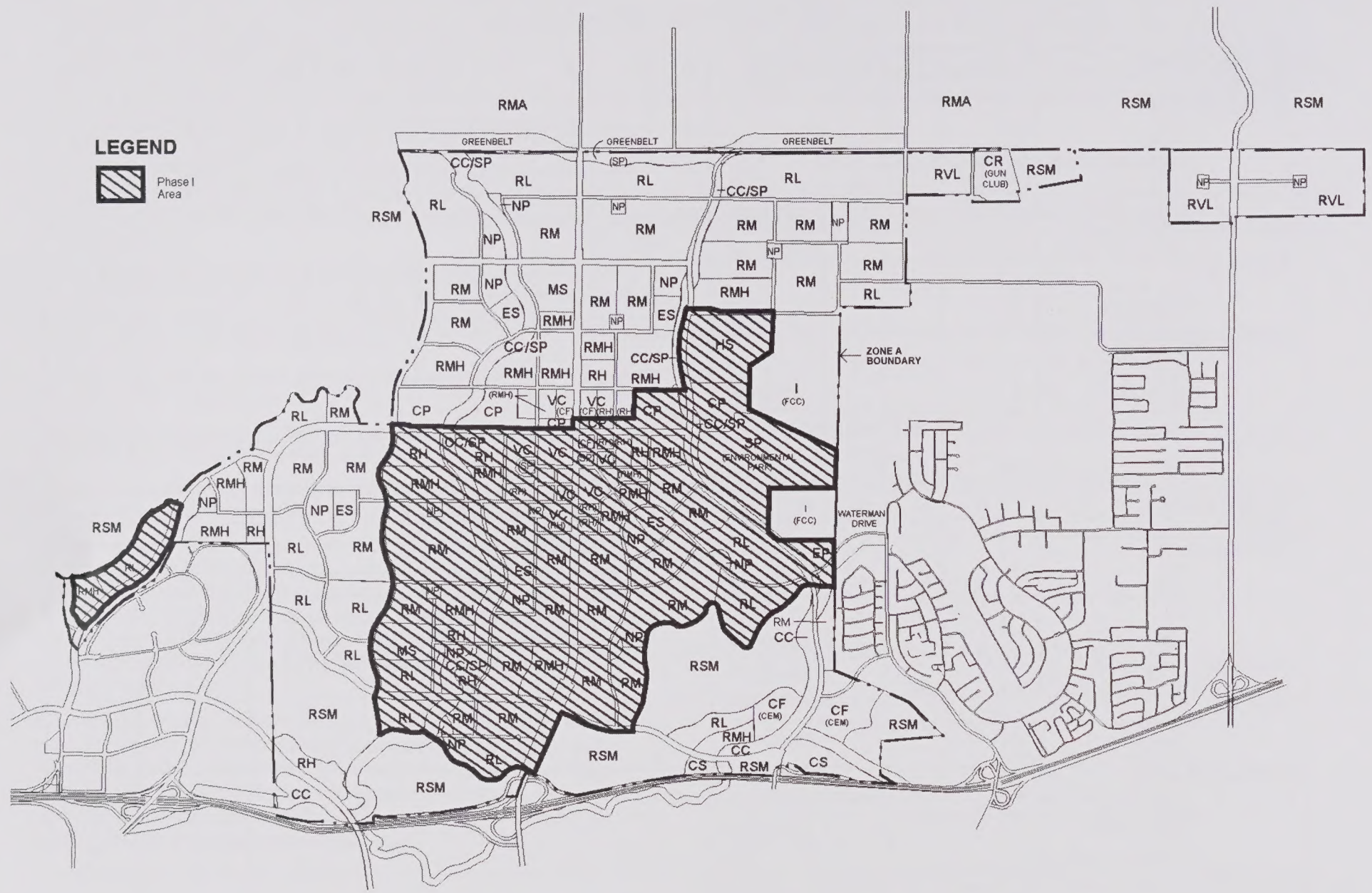


FIGURE 9.1: PHASE 1 LAND USE



FIGURE 9.2: PHASE 1 ROADS

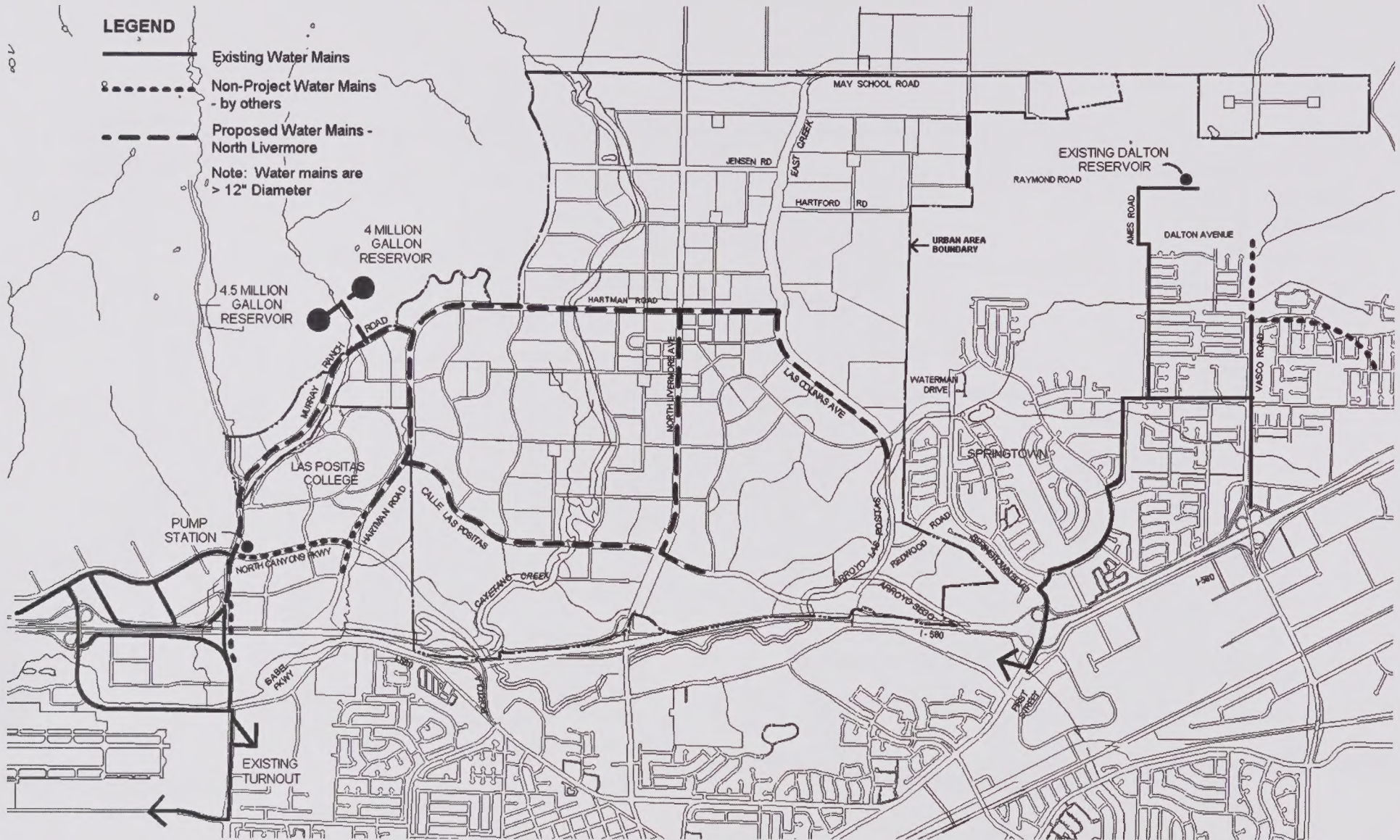


FIGURE 9.3: PHASE 1 POTABLE WATER SYSTEM

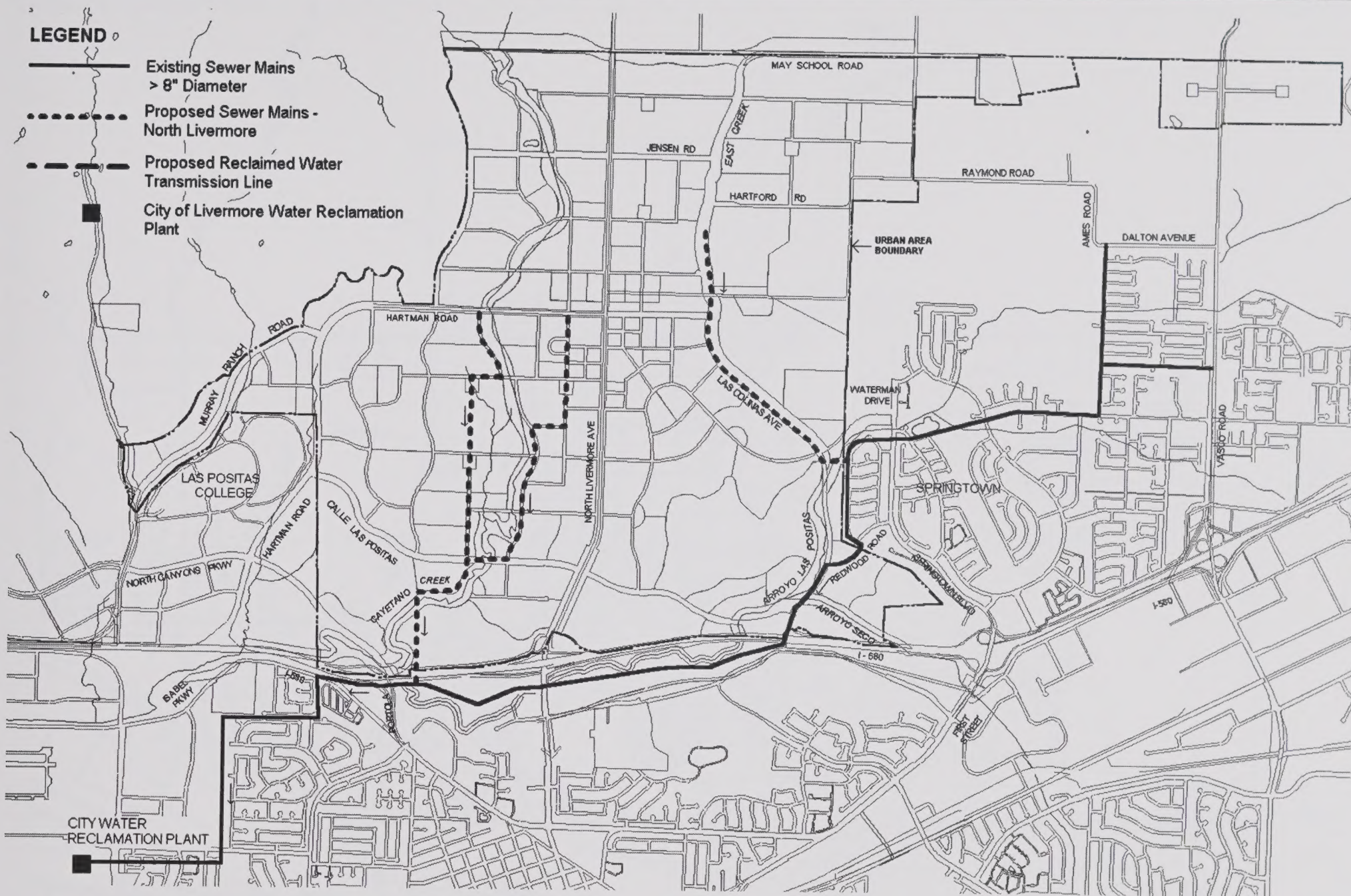


FIGURE 9.4: PHASE 1 WASTEWATER SYSTEM

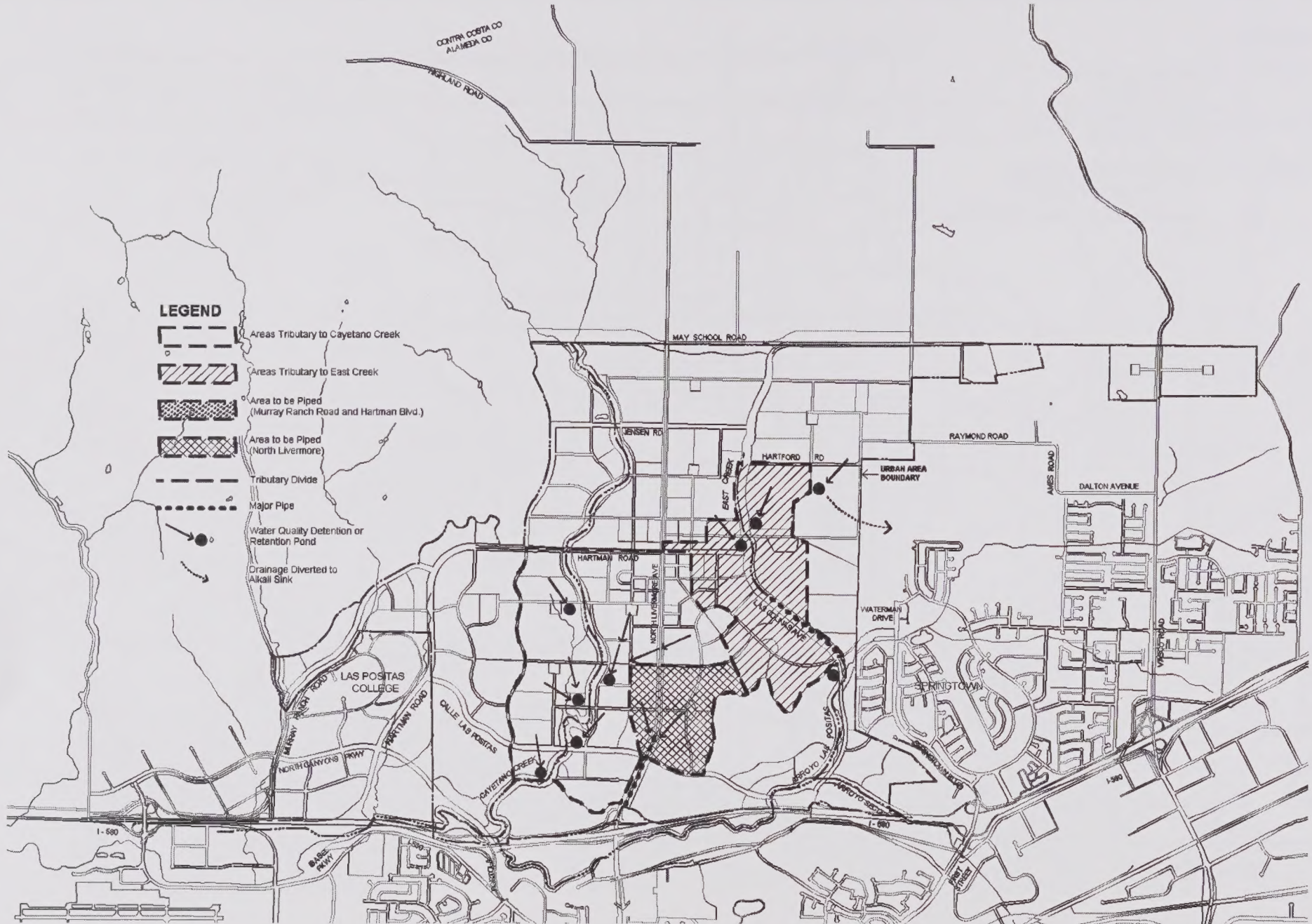


FIGURE 9.5: PHASE 1 STORM DRAINAGE

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